HAIKU, NATURE, AND NARRATIVE:

AN EMPIRICAL STUDY OF THE WRITING PARADIGM AND ITS THEORIES

A Dissertation

by

KITTREDGE TAYLOR STEPHENSON

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Chair of Committee,	David H. Rosen
Co-Chair of Committee	Les C. Morey
Committee Members,	M. Jimmie Killingsworth
	Jyotsna Vaid
Head of Department,	Douglas W. Woods

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ABSTRACT

The present study continued an examination of haiku poetry within the context of the writing paradigm. Groups were compared with respect to three factors—writing type (narrative, haiku, or haibun), image content (nature or non-nature), and affective valence (positive or negative)—on short-term effects (arousal, affective valence, and flow), as well as longer-term negative (anxiety, depression, physiological symptomatology) and positive attributes (spiritual meaning, creativity, mindfulness). The study included a representative sample of 235 participants from a large southwestern university. Longer-term measures were compared using a priori contrasts and Analysis of Covariance, while short-term measures were analyzed via a priori contrasts and Repeated Measures Analysis of Variance.

In comparing groups whose writing involved narrative versus those that wrote only haiku, there was some evidence that participants experienced greater salubrious change when their writing included narrative: mindfulness, change in affective valence, and flow all increased. There were no significant differences between participants who wrote haiku about nature versus a non-nature topic. Relative to those writing haiku in response to negative nature images, those writing haiku in response to positive nature images evinced decreased depressive symptomatology, increased physiological symptomatology, and greater positive change in affective valence. Finally, flow served as a significant main effect for post-writing affective valence across groups, in addition to pre-writing affective valence: the effect was consistent for the narrative group, developed over time for the haiku group, and decreased over time for the haibun group. None of the groups demonstrated significant change on the longer-term measures from baseline to follow-up, however, raising questions about the effectiveness of writing in response to images. The implications of the present study and possibilities for future research are discussed.

For my father
Cecil Blalock Stephenson, Jr.
1936—2013

Crimson tallow leaves
light up the paths
towards smoke blue Ogura

from somewhere
the smell of mackerel

singing children
disperse for home
with the temple bell

a stone thrown far
into the moat

after washing my face
at a service station
winter full moon

she cycles through
each season

cherry blossoms
have fallen
into the maiko's kimono

the newborn arrives
ahead of schedule

on the riverbank
somebody touched my shoulder
weeping willow

echoing down the phone line
his loneliness

they punch back
sturdy sunflowers
holding their ground

the elevator goes up
but doesn't come down.

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INTRODUCTION

Writing in a narrative format, for some 15-20 minutes a day for 3 days or more, has been found to lead to a number of physiological and psychological health benefits, effects which are now supported by a sizeable literature as well as several survey and meta-analytic articles (Frattaroli, 2006; Frisina, Borod, & Lepore, 2004; Sloan & Marx, 2004; Smyth, 1998). Generally speaking, these effects are most prominent in the month following intervention. While questions about theory and topic remain open, the writing paradigm's value as an economically viable intervention has been noted (Pennebaker, 2004) and sufficient evidence has accumulated to allow authors to begin discussing how best to apply the writing paradigm in real-world settings (Smyth & Catley, 2002). As such, Pennebaker has argued that an important focus for the research moving forward is to further identify for whom the writing paradigm works and under what circumstances, that is, to have research continue to detail the specific ways in which it might be appropriate to apply the writing paradigm clinically (Pennebaker, 2004). On the other hand, even as an attempt is made to further refine the model for therapeutic application, important questions remain concerning which theoretical model(s) best account for the results and what changes to the basic model moderate the results (C. A. King, 2004). In order to better understand the current discussion concerning research and application of the writing paradigm model, let us consider the original context in which the writing paradigm developed, how the theoretical models have developed along with it, and how researchers have explored creatively extending the writing paradigm.

The Written Disclosure Paradigm and Its Theories

The writing paradigm began around the topic of trauma (Pennebaker & Beall, 1986). Subjects were university students and employees in these early studies and the theoretical model suggested that writing about traumatic experiences would bring relief in keeping with Freud's theory of catharsis. As the experimental evidence accumulated, however, little evidence was found for this particular theory (Frattaroli, 2006; Sloan & Marx, 2004). The most striking study to disconfirm this theory found that writing deeply

about an imagined traumatic experience was similarly beneficial to writing about an actual, personal experience of trauma (Greenberg, Wortman, & Stone, 1996).

A subsequent approach theorized that results were due to cognitive adaptation. Citing several theories of this ilk, Sloan and Marx (2004) discuss how the benefit of writing might be due to the opportunity to integrate traumatic experience with one's core sense of self, which was disrupted by the traumatic experience. The examination of this theoretical line has been aided by the development of word count and content analysis software programs, such as Linguistic-Inquiry and Word Count (Pennebaker, Booth, & Francis, 2007), which allow researchers to objectively measure changes in language use. A number of studies have subsequently found that there are indeed important indicators of cognitive change and adaptation that occur in narrative writing (Pennebaker & Graybeal, 2001). However, while the linguistic data is itself objective, the manner in which it is used is correlational and as such cannot provide conclusive evidence regarding this theory. Further, those studies that have examined the theory directly have been inconclusive (Sloan & Marx, 2004).

Exposure and emotional processing together constituted another early theoretical line, in which it was hypothesized that simply being exposed to an aversive stimulus would eventually lead to the extinction of the response. As Frattaroli (2006) notes in the most recent meta-analysis of the literature, exposure has received the most empirical support of all the theories that have been proposed. Several theory-specific predictions have been supported. For example, the writing paradigm has been effective in reducing traumatic symptoms generally, and those participants higher in traumatic symptoms receive greater benefit than others. In keeping with findings that longer and more intense exposure generally leads to greater gains, it has also been found that increased numbers of sessions and longer writing sessions have been found to increase the study effect size.

Another theory that has received some support is social integration theory. The theory suggests that disclosing about traumatic events inclines one toward speaking about such distressing events with others; in so doing, one receives social support, which in turn improves well-being. The studies to date suggest that while participants are not

necessarily more likely to speak with others about their traumatic events, they do change the way in which they interact with others, which in turn improves their sense of well-being (Frattaroli, 2006). In summary, while disinhibition theory and cognitive-processing theory have not been particularly well supported, social integration theory and exposure theory have received at least mixed support via the research to date.

Creative Extensions

As is clear from even this brief outline of the proposed theoretical models, additional research is needed to continue exploring the mechanisms by which the writing paradigm operates and several suggestions have been made regarding future research directions. First, as mentioned above, Pennebaker (2004) has suggested that it is time to begin refining our understanding of how to appropriately apply the writing paradigm to specific settings where it may be used clinically. Second, Cheryl King (2004) has argued that it is important to consider exploring the theoretical lines that have been discussed to better differentiate among them such that the underlying mechanisms of writing can be better understood. At the same time, she argues that creative extensions would be valuable as well, both to help understand the mechanisms involved and to potentially improve upon current practices.

Following King's recommendation, one approach has been to apply the basic writing paradigm to novel topics. Most of this research has been done by Laura King and colleagues. These researchers have found, for example, that in having participants write about "intensely positive experiences" (Burton & King, 2004) or their "best possible sel[ves]" (L. A. King, 2001), not only do they experience similarly positive results as in the traditional writing paradigm topics, but there is not the same short-term increase in negative affect that occurs when writing about trauma. As such, these and other authors have suggested that positive topics might in fact provide an improvement upon the traditional topic of a negative life event (Frattaroli, 2006; L. A. King, 2002).

It is worth noting that King (2002) argues that the benefits of writing are due to self-regulation of emotions. That is, narrative writing allows for the opportunity to observe oneself regulating one's own emotional processes, thus exerting some control

and leading to improvement. Overall, there is some indirect evidence of emotional processing in that measures of depression, anxiety, and other aversive affective states generally decrease in writing paradigm studies (Frattaroli, 2006). The fact that writing about either negative or positive affect leads to similar longer-term benefits is in keeping with this theory.

Another method of creative extension that has been used with the writing paradigm is to apply its basic structure to artistic forms of expression. For example, Pennebaker discusses an empirical study in his popular book about writing, *Opening Up* (1997, p. 99), in which "bodily movement," i.e., expressive dance, was compared to narrative writing. It was found that the narrative writing led to significant improvements in physical health and grade point average while the expressive dance did not yield significant results by itself. However, a combined group, which did expressive dance and then wrote about the experience for 10 minutes afterwards, did show similar improvements to the writing condition participants. Pennebaker suggests that while artistic expression is not effective by itself, it can be in combination with narrative writing. He further expresses his conviction that art therapies are effective and that this is likely the case due to the manner in which the therapist facilitates the process of translating the artistic experience into a cognitive mode of increased understanding. These findings are in keeping with results that have been demonstrated consistently since the beginning of the writing paradigm research, namely that significant gains come in writing about emotional experience in a manner that leads to cognitive change (Pennebaker & Seagal, 1999). In other words, the greatest improvement is found when emotional expression and cognitive change are integrated.

Similar results to the expressive dance study were found by Pizarro (2004), who compared drawing visual art with narrative writing in a student population and found that narrative writing led to health benefits while drawing did not. However, she noted a number of ways in which the experimental art condition participants expressed more interest in and engagement with the topic than the writing condition. Pizarro suggests for future studies that a combined condition might be particularly beneficial, which accords

with the Pennebaker results. Another exploration of art in the context of the writing paradigm was conducted by Henderson and colleagues (Henderson, Rosen, & Mascaro, 2007), which involved having participants who reported traumatic stress draw mandalas concerning their trauma. It was found that drawing mandalas led to decreases in traumatic symptomatology, though no other significant results were found.

Another approach has been to use poetry in place of narrative writing. Floyd (2003) used four groups to compare participants writing about personal anxieties using either the standard narrative format or by writing in verse; he then had two control groups to match the experimental groups, i.e., one narrative control group and one poetry control group. As he notes, the value of poetry appears to be different than narrative writing. While narrative writing propels one forward in understanding or integration, the value of poetry is in making the moment more present and pregnant. Following this distinction, he hypothesizes that writing poetry would lead, among other things, to an increased experience of flow, which, following Csikszentmihalyi (2008), addresses "a pleasurable state in which a person is so completely involved in the moment that self-consciousness is minimized and the task at hand is approached with clarity, a sense of control and intense concentration" (Floyd, 2003, p. 36). Floyd found that, on the one hand, writing poetry about anxiety did not in itself lead to the kinds of increased psychological well-being that narrative writing did. However, participants writing poetry about their personal anxieties reported significantly more meaning/understanding and experience of flow.

Thus, the studies to date that attempt to apply creativity and the arts within the structured format of the writing paradigm do not on the whole demonstrate significant results mirroring those found when writing in a narrative format. It appears, rather, that if these creative extensions are to be used constructively in the context of addressing difficult emotions and experiences, using creativity and the arts require some structure to help make meaning of them. It is worth noting that, as Pennebaker alluded to (1997, p. 101), this structure is provided in art therapies, where art is used to connect with parts of the individual and her experience that might not be readily accessible via language, but

is then discussed and integrated so that where art was so language will be. And indeed, studies generally support the efficacy of art therapies (Marrs, 1995). In summary, it appears that if creativity and art are to be used for therapeutic purposes, there is need for some framing, context, and integration with one's broader experience.

However, returning to the other branch of research that has extended the writing paradigm, it has been found that one need not write about difficult emotions or traumatic experiences in order for writing to be helpful (e.g., L. A. King, 2001). This point raises the question of whether there might be alternative ways of addressing and working with creativity and the arts that would lead to different results. It is notable that the studies using art discussed above all employed topics concerned with distress. Instead of looking for the arts to heal in a manner similar to narrative writing, perhaps there would be an alternative approach to using art.

Creativity and the Arts

Western culture has in several ways and in various arts experienced a growing rift between the culture at large and the fine arts, to the significant detriment of both the culture and the individuals who compose it (Gioia, 1992; Zoja, 2007). As Gioia discusses, this has led in poetry, as in the other arts, to the development of increasingly abstract and private use of language by poets. One of the struggles that artists have had to deal with is making a living in an age where patronage has diminished significantly (Hyde, 2007; Richards, 2007a). From a very different angle, Martindale (1975, 2009) has argued, based upon his empirical studies regarding the cycles and dynamics of artistic change, that some of the Western fine arts are dead and that others are on their way out, including poetry. Thus, the arts appear to be in transition, if not crisis, at the societal level.

With such a context serving as backdrop, it is all the more interesting to find numerous books about everyday creativity, connecting with one's inner artist, and the psychological dynamics involved with the creative process (Langer, 2006; May, 1976; Nachmanovitch, 1991; Richards, 2007b). While there is some reference to the challenge of engaging in art and creativity in a meaningful way, the tone of these books is

generally positive and uplifting. At the same time, they do not speak of taking up the pursuit lightly. Rather, these books outline a way of being in relationship to the process of creativity and art that is affirming of both self and other. More to the point, they provide a distinctly different framework for thinking about the place and value of creativity and art.

One of the commonalities these books share is an awareness of a larger, cyclical process of artistic creation and relationship to the work that involves a broad spectrum of emotion: there are times when one bottoms out and does not know how to proceed; times of transcendence and feeling of connection, unity, and participation in something greater than the self; and all the shades of experience in between. This willingness to experience and work with the full range of emotions bears some resemblance to King's (2002) discussion of and research using the writing paradigm as a self-regulation process: instead of the writing's value being solely in helping one integrate or be present to difficult emotions, it enhances positive emotions as well.

The importance of both emotional experience (Fredrickson, 2003) and creativity (Richards, 2007b) have been discussed within the context of positive psychology (Seligman & Csikszentmihalyi, 2000). Instead of looking at and thinking about art within a historical framework, art and creativity are increasingly endorsed as a meaningful way of being present to experience in the moment (Richards, 2007a), which often leads to more fulfilling and valuable contributions, whether in art or other realms of endeavor.

As it is generally applied, the writing paradigm is more concerned with repair of what is already traumatized, difficult, or broken. The authors who are speaking about art and creativity, on the other hand, are doing so in a proactive manner: while there may be some healing qualities, the accent is on interacting with the present moment in a manner that is more deeply engaging. Returning to the writing paradigm research, recall that exposure theory has received the greatest empirical support to date (Frattaroli, 2006). These findings involve the classical use of exposure, i.e., to extinguish a distressing

response to a negative or traumatic stimulus. To what degree, however, might exposure to positive stimuli have a positive effect?

Lyubomirsky and colleagues (2006) have presented research which found that, in comparison to the typical improvements experienced in analyzing one's negative experiences using the writing paradigm, doing so with positive experiences tended to diminish well-being and health outcomes. It might appear that these findings contradict those of King and others (Burton & King, 2004; L. A. King, 2001), where significant benefits have been found in writing about positive experiences. However, the topics used by King and colleagues appear to involve creativity and are more constructive than analytic. It would appear that either analyzing or perhaps simply exposing individuals to previous positive experiences is not particularly beneficial and in fact might be detrimental. When the writing is constructive and creative, however, there appear to be benefits worth noting.

It is worth returning in this context to Floyd's (2003) findings that even in writing poetry about personal anxieties, there was a statistically significant increase in the experience of flow. It would seem that art provides a kind of structure for working proactively with emotional experience, that it forms a container in which to express this aspect of life, which in turn increases one's sense of presence. The suggestion here is that art can facilitate the kind of open attention and engagement that attend the flow experiences that people have when they are expert in a field or endeavor (Csikszentmihalyi, 2008). As such, creativity and art might serve as vehicles towards flow in general; instead of experiencing flow just in the area of one's expertise, engaging in the arts and creativity might be a way of enhancing one's general aptitude for flow experience by virtue of more sensitive perception of and attention to that with which one is engaged in the moment. Put another way, engaging in art might provide an opportunity to integrate the experience of positive emotions, and emotional experience in general, in a manner that neither basic exposure nor analyzing one's positive experiences (Lyubomirsky et al., 2006) can replicate.

The Eastern Tradition

While such a perspective might be relatively novel in the West, such a framework is quite familiar within some Eastern traditions, particularly the Japanese. There, a greater cultural awareness and appreciation for the traditional way-arts, *geido*, remains. D. T. Suzuki (1959) has written extensively about the influence of the Zen Buddhist tradition on the Japanese culture and its way-arts, which are themselves vehicles towards *satori*, Zen's version of enlightenment. Thus, there is an essential and valued link not only between the arts and culture, but also between the arts and spiritual life. And in the practice of the way-arts, one of the defining characteristics is the attention to process over product. Everything, from the preparation to the practice to the final artwork or action, is recognized as being part of a larger whole, the access to which is a concentrated awareness developed and enhanced by a meditative frame of mind. This concentrated awareness and presence to the experience of the moment is central both to the creativity of the art and to the spiritual attainment it makes possible.

But, as Runco notes, this quality of attention and its trappings is similar to Csikszentmihalyi's concept of flow (2006, p. 275), which is recognized as being a place of enhanced creativity. In addition, a number of individuals have discussed how the quality of attention in Zen is conducive to creativity (Loori, 2004; Pritzker, 1999; Torrance, 1979). The basic point is that there appears to be a different way of relating to creativity which frames it in a way that is not perceived as dangerous (e.g., Kaufman & Sexton, 2006) but rather healing and vivifying. At the same time, the way creativity is discussed in the East differs from the more dualistic conceptualization of positive and negative emotions that predominates in the Western empirical studies discussed above. The experience of attention and presence in the Eastern traditions seem more in accord with Joseph Campbell's notion that people do not want to a meaning for life so much as to have the experience of being alive (Campbell, 1991). In this formulation, as for the various authors concerning creativity (Langer, 2006; May, 1976; Nachmanovitch, 1991), there is an appreciation for both positive and negative emotions.

Integrating Eastern and Western Perspectives

To begin connecting the various components of this discussion, research has been conducted examining the therapeutic benefits of writing haiku poetry. Like the arts studies discussed above, this research has modeled itself after the writing paradigm. However, the results seem to point more in the direction embodied by the Eastern paradigm in which haiku originated. In the first study (Stephenson & Rosen, in press), two groups wrote haiku about either a neutral topic or a nature topic for 20 minutes a day for 3 days consecutively. Questionnaires were filled out at baseline, immediately following the writing intervention on the third day, and at a 4-week follow-up. It was found that writing haiku poetry, regardless of topic, led to significant decreases in anxiety and physiological symptomatology. For those writing haiku poetry about the traditional topic of nature, there were significant differences in physiological symptomatology and spiritual meaning.

A second study (Stephenson & Rosen, 2013) was conducted in which four groups were compared: two control groups writing about a neutral topic in either narrative or haiku form, and two experimental groups writing haiku poetry about either a negative life event or nature. It was found that anxiety and depression decreased more when writing in narrative form. However, writing haiku poetry about any topic led to increases in creativity. In addition, with the exception of writing haiku poetry about a negative life event, physiological symptomatology decreased. Writing haiku also led to an increased sensitivity to the topic: those writing about nature experienced a calming effect, while those writing about a negative life event were distressed. In summary, these findings suggest that creative writing such as haiku poetry can be beneficial, and that while there are certain results that accrue simply from writing haiku, others are topic dependent.

While these studies have yielded some significant results, they nevertheless share some of the issues as the research detailed above concerning the application of art within the framework of the writing paradigm. For example, like Floyd (2003), it was found that writing haiku poetry about a distressing topic was experienced as uncomfortable.

And while Floyd found that writing poetry about the distressing topic nevertheless led to an increased experience of flow, and Stephenson and colleagues found that creativity increased, writing haiku poetry did not lead to the hypothesized decreases in depression, nor were the decreases in anxiety from the first study (2011) replicated. Thus, while there appear to be several significant results to date, some adjustments are nevertheless required to appropriately explore the potential therapeutic benefits of composing haiku poetry or of engaging in creativity and the arts generally.

One noteworthy element from the previous discussion is the value of combining creativity and art with narrative writing; the art appears to conjure up a broader, richer range of experience while the narrative provides the opportunity to integrate the experience with one's sense of self or some other narrative. Within the Japanese poetic tradition, haiku is sometimes woven together with narrative in a form known as *haibun*. The most famous example of this form is Basho's *Narrow Road to the Deep North* (1966), a stylized travelogue from the 17th century, though the form is used in other ways as well (Rosen & Weishaus, 2004). Thus, exploring the interaction of haiku and narrative makes sense both within the Japanese poetic tradition and the Western empirical one.

Another element that may deserve more attention is the topic. The research on composing haiku poetry to date has suggested that writing haiku sensitizes one to the topic at hand. The topic of nature has been used in the previous studies primarily because of its being the traditional topic of the haiku form. However, there are empirical results from researchers in a variety of fields suggesting that exposure to natural environments can be healing or beneficial in itself, even for short periods of time (R. Kaplan & Kaplan, 1989; S. Kaplan & Kaplan, 2003). For example, one study found that proximity to green space was correlated with lower rates of health problems (Gardner, 2009).

Present Study

The present study was designed with several aims in mind. First, it aimed to continue building on the significant results to date concerning the salubrious effects of writing haiku poetry. In this regard, a number of measures from previous studies were used in order to compare results across studies. Second, the study explored the topic of nature in greater detail by comparing positive nature images with negative ones, and positive nature images with positive non-nature ones. In doing so, this research provided another opportunity to consider ways of expanding the current writing paradigm (C. A. King, 2004). If exposure to nature is beneficial in itself, it is interesting to consider whether writing about nature in narrative and other formats would be similarly beneficial. Finally, this research further extended the writing paradigm by exploring the effects of writing format. Whereas previous studies have examined more creative and artistic modes of expression primarily by themselves, the present study sought to compare them directly by having three groups writing in response to the same positive nature images but using different forms of writing: narrative, haiku, and haibun. In order to accomplish these comparisons, the study incorporated five writing groups: Narrative-Nature, Haiku-Nature, Haibun-Nature, Haiku-negative-Nature, and Haiku-non-Nature.

The hypotheses were as follows. First, in comparing the three groups writing in response to the same positive nature images (Narrative-Nature, Haiku-Nature, and Haibun-Nature), it was hypothesized that Haibun-Nature would report the greatest decreases in negative attributes (depression, anxiety, and physiological symptomatology), followed by the Narrative-Nature and then Haiku-Nature. Regarding positive attributes (spiritual meaning, creativity, mindfulness, affective valence, and flow), Haiku-Nature was hypothesized to report the greatest positive changes, followed by Haibun-nature and then Narrative-Nature. Second, similar results were anticipated in comparing the two groups whose writing included narrative—Narrative-Nature and Haibun-Nature—versus those that did not—Haiku-Nature and Haiku-non-Nature—when writing in response to positively-valenced images.

A third hypothesis was that in comparing groups writing haiku about different positively-valenced topics—Haiku-Nature and Haiku-non-Nature—the nature group would experience greater decreases in negative attributes and more increases in positive attributes (excluding short-term measures of affect and flow) compared to those writing about a non-nature topic. Fourth, participants writing haiku in response to positively-valenced nature images were hypothesized to report greater decreases in negative attributes and more increases in positive attributes compared to those writing haiku about negatively-valenced nature images.

Fifth, it was hypothesized that flow would serve as a significant predictor of other measures used in the study, i.e., that flow would be an important aspect of the writing intervention leading to significant changes on the various self-report measures. In keeping with the construct of flow as a transient state, it was hypothesized that flow would serve as a significant predictor for short-term measures only. Thus, it was anticipated that flow would be a significant predictor for affective valence in comparing the three groups writing in different forms in response to the same positive nature image; and that there would be significant differences among the groups, with Haiku-Nature experiencing the greatest flow, followed by Haibun-Nature, and then Narrative-Nature.

METHOD

Participants

Participants for this study consisted of undergraduate students participating for course credit at a large southwestern university. As a normal sample was desired, there was no prescreening, and participants were randomly assigned to one of four writing groups. Previous studies of a similar nature have found significant effects with 80-118 participants (Burton & King, 2004; L. A. King, 2001; L. A. King & Miner, 2000). According to calculations, approximately 80 participants would required in order to detect large effect sizes (.40) with a power of .80 for the primary analyses, while upwards of 180 would be required to detect a medium effect size (.25) (Erdfelder, Faul, & Buchner, 1996). The sample size was met with 235 participants, of whom 59% were female. Seventy percent identified as Caucasian/White, 15% as Hispanic/Latina, 5% as Asian, and 3% as African American/Black, and 7% as Other.

Measures

A group of nine self-report measures were used. Anxiety and depression were measured via the respective subscales of the *Personality Assessment Inventory* (PAI; Morey, 1990). Each subscale includes 24 items; the anxiety subscale (PAIA) demonstrated a coefficient alpha of .92 and the depression subscale (PAID) .89 in the present study. A sample item from the Anxiety subscale is, "It's often hard for me to enjoy myself because I am worrying about things." One question on the Depression subscale is, "Much of the time I'm sad for no real reason."

The *Pennebaker Inventory of Limbic Languidness* (PILL; Pennebaker, 1982) is a 54-item questionnaire that measures the frequency of self-reported physiological symptomatology. The items include common physical symptoms and sensations, such as watery eyes, chest pains, headaches, and swollen joints. The coefficient alpha was .87 in the present study.

The *Spiritual Meaning Scale* (SMS; Mascaro, Rosen, & Morey, 2004) is a single scale, 15-item self-report inventory that measures the extent to which a person believes

that life, or some force of which life is a function, has a purpose, will, or way in which individuals participate, independent of religious orientation. A sample item is, "We are all participating in something larger and greater than any of us." Psychometric characteristics of the SMS show a one-month test-retest reliability of .84; the internal consistency was .92 in the present study.

The *Creative Personality Scale* (CPS; Gough, 1979) was developed from the Adjective Check List (Gough & Heilbrun, 1983) and constitutes a 30-item checklist of adjectives designating positive and negative personality characteristics that have been found to load onto factors associated with creativity. Adjectives that load positively for creativity include *confident, individualistic*, and *reflective*; adjectives that load negatively include *cautious, conventional*, and *sincere*. Coefficient alpha was .74 in the present study.

The *Runco Ideational Behavior Scale* (RIBS; Clapham, Muchlinski, & Sedlacek, 2005; Runco, Plucker, & Lim, 2001) is a self-report measure of creativity aimed to capture the construct by reporting cognitive processes directly related to behavior. The present version included 29 items, such as "I have ideas about how to make something better." The coefficient alpha in the present study was .87.

The *Flow State Scale* (FSS; Floyd, 2003; Jackson & Marsh, 1996) was originally developed by Jackson and Marsh as a 36-item measure designed to assess the experience of flow in sport and physical activity settings. The construct of flow has been defined as "a pleasurable state in which a person is so completely involved in the moment that self-consciousness is minimized and the task at hand is approached with clarity, a sense of control and intense concentration" (Floyd, 2003, p. 36). Floyd subsequently revised the scale for use in the context of writing, for which purpose it was pared down to 20 items; upon reviewing the scales' factor loadings, 2 items were removed and the final scale includes 18 items. A sample item is, "My attention was focused entirely on what I was writing." The coefficient alpha in using this revised, 18-item version of the Flow State Scale was .81 in the present study.

The *Self-Assessment Manikin* (SAM; Bradley & Lang, 1994) is a self-report questionnaire that measures arousal level (SAM-A) and affective valence (SAM-V). The questionnaire consists of two 9-point Likert scales: five simple human figures are interspersed with four boxes and participants mark which positions appropriately match their arousal level and affective valence, respectively. The human figures range from calm to excited for arousal and from sad to happy for affective valence. The coefficient alpha was .62 for affective valence, which was manipulated in the course of the study, and .82 for arousal level.

The *Five Facet Mindfulness Questionnaire* (FFMQ; Baer et al., 2008) is a 39-item measure intended to capture five elements associated with mindfulness: observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience. Kabat-Zinn has defined mindfulness as "the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment to moment" (Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007, p. 177). A sample item is, "I perceive my feelings and emotions without having to react to them." Only the total score was used in the present study, for which the internal consistency was .72.

Images

Participants wrote in response to color photographic images drawn from the International Affective Picture System database (IAPS; P. J. Lang, Bradley, & Cuthbert, 2008). The database consists of over 1,000 images that have been rated with respect to arousal level and affective valence via the Self-Assessment Manikin (SAM) measure. The images used in this study were selected according to specific thresholds for arousal and affective valence. Unlike other writing paradigm studies, this study sought to test the effects of writing about low arousal or calming topics. The typical writing paradigm study involves writing in response to an emotionally-charged topic, which has traditionally been negative with respect to affective valence. Even those studies that have been conducted where the writing topic involves a more positive subject, such as an intensely positive experience or personal goal, are designed to engage the writer in a

topic of particular import to the individual, which again speaks to higher arousal and engagement.

In this study, however, participants wrote in response to images that were of lower arousal and higher on either positive or negative affective valence. It was difficult to find images that were both low in arousal and significantly high or low affectively: as an image becomes more affectively charged, it tends to pull for some response from the viewer. Thus, the criteria set for arousal was a 5 or lower on the arousal scale of the SAM (SAM-A), while the affective valence was 5.5 and above for positive affect and 4.5 and below for negative affect on the affective valence scale of the SAM (SAM-V). The means and standard deviations are displayed in Table 1. Three sets of three images each were selected. Three groups wrote in response to the same set of positive nature images: Narrative-Nature, Haiku-Nature, and Haibun-Nature. Another group wrote in response to negative nature images: Haiku-negative-Nature. Finally, one group wrote in response to positively-valenced images that did not involve nature content: Haiku-non-Nature. The image order was counterbalanced over the course of the study, with a different image displayed for each writing day.

Procedure

The overall structure of the study was as follows: the writing intervention involved writing for 15 minutes a day on three consecutive days. On Day 1, participants perused the consent form, filled out questionnaires (Time 1), and completed the first day of writing. Days 2 and 3 (Time 2 and Time 3) continued the writing intervention, along with some questionnaires. Both participant assignment to groups and the order of questionnaires was randomized throughout the study. Within 21-28 days after the last writing day, participants returned to complete the questionnaires once again, along with some questions regarding their experience of the study (Follow-up). The questionnaires were completed at different time points in keeping with their intentions. The majority were completed at Time 1 and Follow-up: PAIA, PAID, PILL, SMS, CPS, RIBS, and FFMQ. However, the SAM was completed pre- and post-writing each day (Times 1, 2, and 3), while the FSS was completed after each writing intervention.

Table 1. *IAPS Image Data*

Image Type	IAPS ID	Image Contents	Arousal	Affective Valence
Positive Nature	5990	Sunset	4.44	6.54
	5661	Canyon Wall	4.15	5.96
	1731	Nature Vista with Animals	4.56	7.07
		Mean	4.38	6.52
		St. Dev	0.21	0.56
Positive Non-Nature	7504	Artful Stairs and Banister	4.25	5.67
	7508	Ferris Wheel	5.09	7.02
	7510	City Buildings	4.52	6.05
		Mean	4.62	6.25
		St. Dev	0.43	0.70
Negative Nature	5970	Tornado	4.88	4.14
	9180	Injured Seals	5.02	2.99
	9186	Vultures with Carcass	4.88	3.43
		Mean	4.93	3.52
		St. Dev	0.08	0.58

Note. Arousal measured via SAM-A, affective valence by SAM-V. SAM scores range from 1-9.

Up to 25 participants were run at a time. Subjects in all conditions were asked to write about an image that was projected at the front of a standard university classroom. For the nature groups, an image of a natural scene was used, either positively- or negatively-valenced, while an artificial (i.e., of human construction) scene was projected for the group writing about a non-nature topic. Within the sessions that involved writing in response to positively-valenced nature images, participants received a randomly assigned packet with instructions specific to one of the three positive nature groups: Narrative-Nature, Haiku-Nature, or Haibun-Nature. In order to facilitate running all nature groups within the same session, as well as to maintain consistency among the five groups, all instructions read or discussed with the group as a whole were generic and pertained to all participants. Instructions specific to each group were included within the participant packets and were read individually (see Appendix C). To help participants prepare to write in a manner conducive to creative work, they were led through a generic meditation and visualization guiding them through each of the five senses. The same script was used for all groups and was read slowly by the researcher. At the follow-up session, participants completed the self-report questionnaires and responded about their experience of the study.

RESULTS

Before beginning the primary analyses, the data was explored in several ways. Table 2 includes representative samples of participant writing from each of the five experimental writing groups. While participants were asked to write in response to the given instructions and image, they were also encouraged to make the writing meaningful to them; the writing instructions allowed for the incorporation of personal content in addition to details about the given images (see Appendix C). As is evident from the examples, some participants took more latitude with respect to personal meanings in responding to the writing prompt than others.

In order to check that participants nevertheless wrote in the manner prescribed to them, writing manipulation checks were conducted. Ten participants from each of the writing groups were sampled at random and their writing reviewed for content and form. All participants wrote in response to the prompt, both in terms of content and form. On two occasions, a participant in a haiku group included one paragraph of narrative writing on the first day only. While the tone of the participant writings typically followed the affective valence for which the image was chosen (positive or negative), sometimes a participant's mood seemed to predominate. In these instances, while the participant wrote according to the content and form, the emotional tone varied according to personal experience or associations. Overall, the writing manipulations were effective.

Information was also gathered prior to the writing intervention and at follow-up concerning participants' experience with writing and with the present study. At the beginning of the study, 35% of participants reported writing for personal enjoyment. Of those who reported writing, 58% reported writing monthly or less, 23% wrote a couple times a week, 10% on most days, and another 9% on an as-needed basis. Participants who wrote for enjoyment often reported writing in more than one form. The percentages follow, with Time 1 values first and Follow-up values in parentheses: 75% at Time 1 (69% at Follow-up) reported journaling, 31% (36%) composed poetry, 26% (31%) wrote

Table 2. *Participant Writing Examples*

Narrative-Nature	**Haibun-Nature**
The place is completely still, and silent, except for the slow drop of water, and faint whisper of the wind. You can hear [as] it blows by above, but it's too far out of reach to feel…	Painted hues of the past decorate the sloping walls. Light streams in from above and douses the shades with moonlight. Wind moans through the jagged landscaping, whisping my hair back, as if giving me its energy. Wind moans gently Water ripples in response Land moves in time
The air is hot but refreshing. There is no one around for miles it seems and that is the way I like it. Quiet, peace, and serenity. Things the real world robs from us. The lions are sitting by the watering hole…	Everything smells so fresh. I can stare at the clouds all day. The mountains look as if someone painted them along the horizon. This doesn't seem like reality, but more like a living painting. It relaxes me. I'm calm and at peace. Nature is so beautiful. Settings like this assure me that there is a god. Open, fresh, calm It is a living painting This is peace

Haiku-Nature	**Haiku-non-Nature**	**Haiku-negative-Nature**
Smooth to touch, Light bounces from water, Smell of fresh morning	Glass and steel rising Into the blue sky Reaching for progress	Slashes on smooth skin Crimson streaks stain quiet snow Death is not beauty
Desperation desolation desire Endless skies above A no man's land	Going upstairs Not knowing what's ahead Looking for better place	Life is a choice Vulture or victim Faith or failure

fiction, 15% (17%) blogged, 12% (18%) composed essays, 7% (12%) wrote non-fiction, and 15% (11%) noted writing in other forms.

At follow-up, 62% of the participants reported enjoying the study. A Chi-Square test evaluating differences in enjoyment between groups was marginally significant [χ^2 (4) = 8.132, p = .087]. Within groups, 71% of Narrative-Nature enjoyed the study, 67% enjoyed it from both Haiku-Nature and Haibun-Nature, 63% of Haiku-non-Nature, and 44% of Haiku-negative-Nature. Finally, the question of whether participants write for enjoyment was repeated at follow-up, at which time there was a 10% increase in the number of participants who reported writing for enjoyment.

For those groups whose writing included haiku, participants were asked whether the poetry involved in this study reminded them of a particular form of poetry, after which they were asked whether they could name one in particular. Among these participants, 21% correctly named the poetry type as haiku. Of those groups whose writing included haiku (i.e., all except Narrative-nature), 81% were content with writing poetry in the form outlined in the study and did not state a preference for a different form. And when asked whether the participants would consider participating in the study if they had it to do over again, 55% responded positively, 20% as neutral, and 23% negatively. Participants' responses did not differ significantly by group [χ^2 (20) = 21.269, p = .381].

With respect to the primary analyses, this study aimed to build upon previous studies by accomplishing two primary tasks: 1) to compare writing types on selected self-report questionnaires while holding the topic constant, and 2) to examine the effects of manipulating the writing topic (nature versus non-nature) and affective valence (positive or negative) on the effects of composing haiku poetry as registered via the self-report measures. Both short- and longer-term questionnaires were used to evaluate the effects of the writing interventions. The longer-term questionnaires involved roughly two categories. Anxiety (PAIA), depression (PAID), and physiological symptomatology (PILL) are considered typical factors activated under stress or difficulty; for simplicity, these will be referred to collectively as "negative attributes." Spiritual meaning (SMS),

creativity (CPS, RIBS), and mindfulness (FFMQ) constitute factors associated with positive psychology and will be referred to here as "positive attributes." The negative attribute measures evaluated elements typically considered in the writing paradigm literature, while the positive attribute measures addressed elements considered germane to composing haiku poetry. The short-term questionnaires addressed arousal level (SAM-A), affective valence (SAM-V), and flow (FSS); these measures were intended to track short-term changes that have been found to differ depending on the writing topic within the writing paradigm. Means and standard deviations, estimated marginal means and standard errors, and correlations for the measures are displayed in Tables 3-7. There were 47 participants that completed the Narrative-Nature writing intervention, 43 in Haiku-Nature, 51 in Haibun-Nature, 45 in Haiku-negative-Nature, and 49 in Haiku-non-Nature.

Hypothesis 1

The effects of writing about the same topic but in various writing formats were examined. It was hypothesized that with respect to negative attributes, Haibun-Nature would display the largest decreases on the measures, followed by Narrative-Nature, then Haiku-Nature. It was further hypothesized that with respect to positive attributes, there would be significant change on the measures in the following order from greatest positive change to least: Haiku-Nature, Haibun-Nature, and Narrative-Nature. An Analysis of Covariance (ANCOVA) was run to test for changes among the three groups, which found no significant results. Negative attributes: PAIA [F (2, 135) = .890, p = .413], PAID [F (2, 135) = .116, p = .890], PILL, [F (2, 126) = .337, p = .714]; Positive attributes: SMS [F (2, 136) = 1.872, p = .158], CPS [F (2, 137) = .452, p = .637], RIBS [F (2, 112) = 1.303, p = .276], FFMQ [F (2, 136) = 1.793, p = .170].

The short-term measures were evaluated using Repeated Measures Analysis of Variance (RM ANOVA). Since the images in response to which the participants wrote were selected to maintain low arousal in all groups, no statistically significant results were expected in any of the analyses for arousal throughout the study. Affective valence was manipulated in comparing those groups writing in response to positive nature

images (Narrative-Nature, Haiku-Nature, Haibun-Nature, Haiku-non-Nature) versus negative ones (Haiku-negative-Nature). In addition, differences among the groups writing in response to the positive nature images were hypothesized.

Among the three groups evaluated for Hypothesis 1, Haiku-Nature was anticipated to experience the greatest increase in affective valence, followed by Haibun-Nature, then Narrative-Nature. Arousal (SAM-A) and affective valence (SAM-V) were measured immediately pre- and post-writing on all three writing days. RM ANOVA was used to analyze these hypotheses, inputting the residualized difference scores between the pre- and post-writing values for each of the three writing days (Cronbach & Furby, 1970). Positive values indicate increasing change from pre- to post-writing towards greater positive affective valence, while negative values indicate increasing change from pre- to post-writing towards negative affective valence. Scores approaching zero indicate little change between pre- and post-writing measures of affective valence.

With respect to arousal, the effects of time [F (2, 206) = 1.316, p = .270] and group [F (2, 103) = .133, p = .876] were not significant but their interaction was marginally significant [F (4, 206) = 2.231, p = .067] (Figure 1). Affective valence yielded no significant changes among the three groups: group [F (2, 129) = 2.015, p = .138], time [F (2, 258) = .948, p = .389], group by time [F (4, 258) = 1.029, p = .393]. With respect to flow, it was hypothesized that Haiku-Nature would experience the most flow, followed by Haibun-Nature, then Narrative-Nature. While there was not a significant difference according to group [F (2, 137) = .569, p = .568] or group by time [F (4, 274) = .205, p = .936], there was a significant effect for time [F (2, 458) = 15.725, $p < .001$, $\eta^2 = .091$]. As can be seen in Figure 2, there was a significant decrease in flow across the groups over time.

Hypothesis 2

The second hypothesis provided a comparison of groups whose writing involved narrative versus those that did not. For the longer-term analyses, ANCOVA a priori contrasts were conducted comparing Narrative-Nature and Haibun-Nature on the one hand with Haiku-Nature and Haiku-non-Nature on the other. It was hypothesized that the

narrative groups would report greater change with respect to negative attributes, while the haiku groups would report greater change on positive attributes. No significant differences among the groups were found among the negative attribute variables: PAIA [F (1, 227) = .259, p = .611], PAID [F (1, 227) = .974, p = .325], PILL [F (1, 218) = .074, p = .786]. However, mindfulness was found to change significantly among the groups [F (1, 225) = 5.623, p = .019, d = .206], with the narrative groups reporting greater positive change in mindfulness (Figure 3). The other positive attribute variables were not significant: SMS [F (1, 228) = 1.384, p = .241], CPS [F (1, 229) = .253, p = .615], RIBS [F (1, 190) = .017, p = .896].

With respect to the short-term measures, the haiku groups were hypothesized to report a greater positive change in their experience of flow, but the narrative groups reported greater positive change [F (1, 229) = 3.973, p = .047, η^2 = .017]. The haiku groups were also anticipated to report greater change in pre- to post-writing affective valence relative to the narrative groups, but manifest no significant change in arousal. These hypotheses were tested via RM ANOVA a priori contrasts, and it was found that the narrative groups experienced the greater increase in affective valence [F (1, 213) = 3.897, p = .050, η^2 = .018], while arousal did not change significantly [F (1, 178) = .003, p = .960]. The means and standard deviations for affective valence can be found in Table 8, and as can be seen in Figure 4, both sets of groups experienced notable change in affective valence from pre- to post-writing on Day 1. The narrative groups (Narrative-Nature and Haibun-Nature) continued to decrease in the amount of change they experienced as a result of the writing intervention. However, the values remained positive, i.e., the narrative groups continued to report greater positive affect as a result of the writing intervention. In comparison, the haiku groups (Haiku-Nature and Haiku-non-Nature) experienced less positive affect as a result of the writing intervention on Day 1. On Day 2, they experienced approximately the same amount of change as on Day 1, but towards greater positive affect. Finally, on Day 3, the haiku groups experienced less change in affective valence in response to the writing intervention, but tended slightly towards less positive affect post-writing.

Hypothesis 3

The effects of manipulating the writing topic were also of interest: two groups wrote in response to images that were matched for low affect and positive valence but differed in content. It was hypothesized that compared to Haiku-non-Nature, Haiku-Nature would report a change towards significantly less negative attributes from Time 1 to Follow-up, and increased positive attributes. There were no significant results on the longer-term measures. Negative attributes: PAIA [F (1, 227) = .674, p = .412], PAID [F (1, 227) = .374, p = .556], PILL, [F (1, 218) = .713, p = .399]; Positive attributes: SMS [F (1, 228) = 2.702, p = .102], CPS [F (1, 229) = .344, p = .558], RIBS [F (1, 190) = .001, p = .971], FFMQ [F (1, 225) = .334, p = .564].

On the short-term measures, there were no significant changes between groups with respect to arousal [F (1, 178) = .559, p = .456], as hypothesized. With respect to affective valence, both groups were hypothesized to experience significant change from pre- to post-writing but not to differ from one another. The two groups were collapsed and paired-samples t-tests run comparing pre- and post-writing measures for each of the three writing days separately, given the significant time effects witnessed elsewhere. It was found that the difference in affective valence for both Haiku-Nature and Haiku-non-Nature was only marginally significant on Day 1 [t (84) = -1.667, p = .097], though in the predicted direction of increasing positively in response to the writing intervention. Day 2 [t (85) = -.272, p = .786] and Day 3 [t (91) = .356, p = .723] did not yield significant changes. There were no differences with respect to flow, as hypothesized [F (1, 229) = 1.132, p = .289].

Hypothesis 4

Another contrast of interest was to compare groups writing in haiku form but about nature topics that differed significantly with respect to affective valence. It was hypothesized that compared to Haiku-negative-Nature, Haiku-Nature would experience decreases in scores on negative attributes and increases on positive attributes at Follow-up controlling for Time 1. It was found that the Haiku-Nature group reported decreased depressive symptoms relative to Haiku-negative-nature [F (1, 227) = 3.939, p = .048, d =

.239] (Figure 5) but increased physiological symptomatology [F (1, 218) = 5.028, p = .026, d = .340] (Figure 6). However, as can be seen more clearly in Table 4, the significant change in physiological symptomatology between the groups was driven more by the decrease for Haiku-negative-Nature from Time 1 to Follow-up, rather than the relatively small increase for Haiku-Nature. Anxiety (PAIA) was not significant [F (1, 227) = .910, p = .341] and there were no significant changes between groups with respect to positive attributes: SMS [F (1, 228) = .365, p = .574], CPS [F (1, 229) = .054, p = .817], RIBS [F (1, 190) = 1.398, p = .239], FFMQ [F (1, 225) < .001, p = .994].

For the short-term measures, it was hypothesized that there would be no difference in arousal level, which was correct [F (1, 178) = .470, p = .494]. It was also hypothesized that Haiku-Nature would experience greater positive change on affective valence, in keeping with the manipulation, and would report greater positive change in flow. It was found that Haiku-Nature did indeed experience greater change towards positive valence [F (1, 213) = 9.671, p = .002, η^2 = .043] (Figure 7) but there were no significant changes in flow between groups [F (1, 229) = .232, p = .631].

With respect to Hypotheses 2-4, the short-term measures were analyzed using specific a priori contrasts within RM ANOVA to compare groups. While Hypothesis 1 compared three of the groups via RM ANOVA, an omnibus RM ANOVA was conducted in order to more fully examine the effect of time and the interaction of time with group. Flow decreased significantly over time [F (2, 458) = 15.725, p < .001, η^2 = .063] (Figure 2), as it did in comparing Narrative-Nature, Haiku-Nature, and Haibun-Nature in Hypothesis 1. And in keeping with the findings reported above in the contrasts, change in pre- to post-writing affective valence differed significantly by group [F (4, 213) = 6.193, p < .001, η^2 = .104]; these group differences also interacted significantly with time [F (8, 426) = 2.100, p = .035, η^2 = .038]. As can be seen in Figure 7, the time by group interaction was significant because of the pronounced difference between Haiku-Narrative and Haiku-negative-Nature on Day 1, where Haiku-Narrative demonstrated a significant increase towards positive affect as a result of the writing intervention and Haiku-negative-Nature experienced a significant increase towards

negative affect. However, the amount of change from pre- to post-writing as a result of the writing interventions diminished over time across groups.

Overall, the groups writing in response to either the same images (positive nature), or images similar in arousal and affective valence (positive nature versus non-nature), did not differ notably from each other. Given the lack of difference between groups, paired-samples *t*-tests were also conducted to evaluate whether participants experienced significant change from Time 1 to Follow-up, regardless of group. When collapsing across Narrative-Nature, Haiku-Nature, Haibun-Nature, and Haiku-non-Nature, there were no significant changes from Time 1 to Follow-up. Negative attributes: PAIA [t (183) = .787, p = .432], PAID [t (183) = -.060, p = .952], PILL, [t (174) = 1.469, p = .144]; Positive attributes: SMS [t (184) = .015, p = .988], CPS [t (185) = 1.378, p = .170], RIBS [t (158) = .377, p = .706], FFMQ [t (183) = -.409, p = .683]. Thus, not only were there few significant differences between groups, but the groups did not experience any notable change over time with respect to the longer-term measures.

Hypothesis 5

In addition to being hypothesized to differ by group, flow was conceptualized as being an important factor in other effects as well. Specifically, an experience of flow during writing was anticipated to significantly predict changes in other measures. Given the transient quality of flow, only affective valence was anticipated to be affected, since the other measures evaluated longer-term dynamics. It was hypothesized that flow would demonstrate a significant main effect for affective valence, as would pre-writing values on that measure. Haiku-Nature was anticipated to report higher scores for flow than Haibun-Nature, and Haibun-Nature more than Narrative-Nature, on each of the three writing days. In order to test this hypothesis, pre-writing affective valence (SAM-pre-V), flow (FSS), and their interaction were regressed on post-writing affective valence (SAM-post-V) for each of the three writing days. Three sets of regressions were run to evaluate Narrative-Nature, Haiku-Nature, and Haibun-Nature, respectively.

The results are presented in Table 9. Overall, the groups demonstrated a notable main effect for flow on post-writing affective valence, in addition to a significant effect

of pre-writing affective valence. In other words, participants' mood after writing was informed both by their mood before writing and by their experience of flow during writing. The experience of flow also differed by group. The most robust effect was found in the narrative group, which demonstrated the significant main effect for flow on all three writing days. In contrast, the Haibun-Nature group was significant on the first day and then decreased on subsequent days. Finally, flow did not significantly predict Haiku-Nature's post-writing mood on the first two days but did on the third. These findings suggest that the experience of flow was impacted by the type of writing. Participants writing only in narrative experienced the most flow, perhaps due to greater familiarity with the form. In contrast, those participants writing in haiku may have required some time to become accustomed to writing in that form, but as they did, their experience of flow became a significant predictor of their post-writing mood. Finally, for participants writing haibun, flow became less of a predictor in their post-writing mood.

CONCLUSION

One of the primary tasks of this study was to compare groups writing in in response to the same positively-valenced nature images but in different formats: haiku, haibun, and narrative. When the three groups were compared directly, they did not differ on the longer-term measures and differed little on the short-term measures. Change in arousal remained relatively constant for the narrative group, fluctuated notably for the haiku group, and consistently shifted towards positive change for the haibun group, to a marginally significant degree. The experience of flow decreased over the course of the three writing days, and the differences among participants writing in these formats were negligible.

Another set of analyses were conducted in which the two groups that included narrative in some form—Narrative-Nature and Haibun-Nature—were compared with those that did not but were writing in response to positively-valenced images (i.e., Haiku-negative-Nature was not included). Here, the narrative groups reported a greater positive change in mindfulness than the haiku groups. The narrative groups also reported greater changes in positive affect in response to the writing intervention and increased flow over the course of the three writing days. Since there were few differences between groups, the data were subsequently analyzed collapsed across the four groups that wrote in response to positively-valenced images. When comparing Time 1 with Follow-up values for all longer-term measures, no significant changes were found.

Several conclusions might be drawn from these findings. First, writing in response to low arousal, positively-valenced images does not appear to yield results similar to the traditional writing paradigm (Frattaroli, 2006), regardless of image content (nature or non-nature). It is worth noting, however, that those groups whose writing form included narrative were not writing narrative as traditionally conceived in the writing paradigm. In this study, participants wrote narrative in response to their assigned images. In order to be directly comparable to the writing paradigm, participants would have needed to compose haiku, then spent time writing in narrative form about their

experience of composing the haiku. Thus, writing narrative in response to a low-arousal topic does not appear to yield results similar to typical writing paradigm topics that involve higher arousal and personal meaning (Burton & King, 2004; L. A. King, 2001).

The few significant differences that did surface were in favor of narrative forms of writing. It may be that participants were simply more familiar with narrative writing and as a result were able to benefit more from it. It has been suggested that creative endeavors such as composing haiku poetry renew or reinvigorate our perception of the world, allowing us to see the world anew (Loori, 2004). However, composing haiku poetry was largely a novel task for this sample, and in keeping with the literature on flow (Csikszentmihalyi, 2008; Nakamura & Csikszentmihalyi, 2009), it would be reasonable to conclude that the groups composing haiku poetry experienced less flow to the degree that they were less familiar with the writing form. This effect would be due to the novel task placing a higher cognitive demand on the participant, which would allow for less attention to the subtler elements of the task that might give rise to the flow experience.

It may also be that composing haiku poetry in response to images did not allow for the kind of engagement with the topic that is typically associated with haiku, such as Ross' formulation of the "haiku moment" (2007). Following the results of a previous study (Stephenson & Rosen, 2013), it was hypothesized that participants composing haiku would experience an increased sensitization toward their topic. However, it appears that instead of becoming more engaged with their topic, participants composing haiku poetry generally became less engaged, as reflected by their decreased experience of flow over time. While participants were asked to write in response to the given image, they were nevertheless encouraged to make their writing personally meaningful (see Appendix C). It may be that writing in response to a given image did not allow for the kind of engagement with the topic that would be available with topics that were more present for the participants.

In previous studies, participants wrote in response to an image they visualized for themselves, which likely made it more personal and relevant than writing in response to given images in the present study. Participants' experience might be different were they

to write about a natural setting while experiencing it directly, which would involve a richer experience of the topic (i.e., the natural setting) than an image of nature projected within the context of a standard classroom, as in the present study.

Two additional contrasts were conducted to evaluate the effect of varying the topic in response to which participants wrote haiku in order to determine what effect this would have on the self-report measures. One of these contrasts manipulated image content: holding arousal and affective valence constant, two groups wrote haiku in response to either images of nature or non-nature. In this contrast, the longer-term comparisons did not differ significantly with respect to negative or positive attributes. There were also no significant differences in flow, but the Haiku-Nature group's tendency toward experiencing increased positive affect pre- to post-writing was marginally significant. Overall, these findings maintain the trend of the groups not differing significantly over time or in comparison with each other. The marginal significance of the Haiku-Nature group's tendency to experience greater positive affect as a result of the writing intervention relative to Haiku-non-Nature can only be taken as suggestive in the present study. If, in a future study, participants wrote in response to something more engaging to them than images, there might be more notable differences between groups.

The other contrast compared two groups that wrote about nature in haiku form, but with the nature images differing according to affective valence: one group wrote about negatively-valenced nature images while the other wrote about positively-valenced nature images. In comparing these two groups, it was found that the Haiku-negative-Nature group writing in response to negative nature images experienced a significant increase in depressive symptoms but decreased physiological symptomatology. Also, the Haiku-Nature group experienced greater change in positive affect in response to the writing intervention.

It is unclear why the Haiku-negative-Nature reported significantly less physiological symptomatology as a result of the writing intervention. It may be that these participants were not as present to their own ailments after being in the presence of

an image that represented greater negative affective valence than their initial mood state, an effect not unlike downward social comparison (Festinger, 1954). It is worth noting, though, that in comparing those writing haiku about nature versus a negative life event in a previous study, those writing about nature experienced less physiological symptomatology (Stephenson & Rosen, 2013). While these studies are not directly comparable, they do present contrasting data, leaving the cause unclear. However, the finding in the present study that the Haiku-negative-Nature group reported increased depressive symptomatology is in keeping with the hypothesis that writing in response to a positively-valenced image would lead to decreased reporting of negative attributes while writing about a negatively-valenced image would not.

Perhaps the most notable results in this study concerned the short-term main effects of flow on affective valence. It was found that flow was experienced differently by writing group, with Narrative-Nature exhibiting the most consistent effect of flow on post-writing mood. Haiku-Nature developed this effect only on Day 3, presumably requiring some time to become familiar with the novel writing form. That Haibun-Nature's flow effect on post-writing mood decreased over time is unclear. However, this finding seems to underscore how the narrative used in the present study differed from the traditional use of narrative in the writing paradigm, where one might hypothesize that flow would be likely to increase (Pennebaker, 1997, p. 99).

The Writing Paradigm Perspective

In summary, there is little evidence from the present study that writing in response to low-arousal images provides an effective intervention in a manner following the structure of the writing paradigm. From the perspective of the writing paradigm, this lack of significance might be hypothesized as resulting from several aspects. First, the present study investigated writing in response to low-arousal images, while the writing paradigm has been founded upon higher arousal, personally meaningful topics (Frattaroli, 2006). The present findings would suggest that writing in response to low-arousal topics does not yield a similar effect.

Second, even when participants have expressed themselves in personally meaningful ways in response to higher-arousal topics, previous studies have found that mental and health benefits do not accrue without an opportunity to process the experience via narrative (Pennebaker, 1997, p. 99; Pizarro, 2004). As was noted above, the narrative included in the present study did not allow for the kind of personal processing that is typical in the writing paradigm. Third, perhaps in part because haiku poems do not involve as much writing as narrative, more time might be required for their effects to manifest. Even when the writing paradigm is employed for significantly less time, participants are still writing more than in composing haiku (Burton & King, 2008). Were this the case, studying the effect of composing haiku poetry might be better studied over a longer period of time than the 3-4 day period typically used in the writing paradigm. It is worth noting, too, that the most recent meta-analysis of the writing paradigm (Frattaroli, 2006) found that participants improved to a greater degree when the "dosage" increased, either in terms of writing session length or number of sessions.

The Japanese Tradition

From the perspective of the Japanese tradition and the haiku tradition in particular, the use of images in this study may have increased the quality of the experimental manipulation, but having participants write in response to an image likely removed them from the "haiku moment" (Rosen & Weishaus, 2004; Ross, 2007) that is considered the essence of the haiku experience. As such, while the present study may speak to the lack of effectiveness of considering the composition of haiku poetry within the context of the writing paradigm, it remains to be seen experimentally what effects composing haiku poetry may have on an individual longer-term.

Another issue may have been that in choosing the IAPS images for use in the study, as images increased in positive valence, they seemed to increase in aesthetic quality. In other words, not only was the content notably different depending on the degree of positive or negative valence, but the composition of the image seemed to tend towards greater aesthetic quality as the affective valence became increasingly positive. The opposite was noted as images decreased in affective valence: images became more

direct, focused on displaying the content without attention on how the image was framed. This aesthetic quality may have confounded the difference between Haiku-Nature and Haiku-non-Nature. However, the general lack of significant change across groups from Time 1 to Follow-up may suggest that the use of images is ineffective, above and beyond potential confounds between group content for reasons such as aesthetic quality.

In any event, the participants evinced a notable habituation effect over the course of the three days when writing in response to the given images. It may be, then, that having the opportunity to write in response to more personally relevant inner images remains closer to the heart of haiku. In terms of the haiku tradition, this would indeed seem to be the case: while haiku is traditionally about nature, it nevertheless reflects the poet's inner resonance with an experience of nature that is represented in the poem (Loori, 2004; Rosen & Weishaus, 2004; Ross, 2007). The process of writing haiku in response to given images would likely make the process of creating that inner resonance more challenging.

Despite these limited findings overall, there were nevertheless group differences worth noting. Taken as a whole, these findings seem to suggest that narrative writing was more effective for this sample than writing in haiku or haibun. A significant habituation effect was noted over the course of the writing days, which runs counter to the traditional experience of composing haiku poetry (Suzuki, 1959). Poetry in general and perhaps haiku in particular has been attributed the ability to renew our ability to see quotidian objects and experience afresh (Loori, 2004, p. 219). Lacking this experience of the writing intervention, however, participants likely preferred what was more familiar to them: narrative writing.

A Review of the Empirical Findings on Composing Haiku Poetry

It might be helpful now to compare the findings across the three studies that have been conducted to evaluate the possible therapeutic benefits of writing haiku poetry. While the studies are not directly comparable, the purpose of this review will be to consider whether overall trends emerge from the three studies despite differences in

study design. In order to clarify the differences between studies before considering what they may have in common, the methodology, design, and aims of the respective studies will first be described.

The methodology used in the first two studies (Stephenson & Rosen, in press; Stephenson & Rosen, 2013) was the same: participants were asked to visualize images that fit particular topics (e.g., nature or a negative life event) and write in response to them for 20 minutes a day on 3 consecutive days, after undergoing a similar visualization exercise. The follow-up period for the first study was 4 weeks while the second study was 3 weeks. In contrast, the present study had participants write for 15 minutes and in response to assigned images. While the experimental groups differed by study, there was some overlap. All three studies included a low-arousal, positive nature group. The first two studies also included a control group writing about a neutral topic. Finally, the second study and the present one both included a group writing haiku about a negatively-valenced topic: a negative life event in the second study and negative nature images in the present one.

The aims of each study also differed. In the first study, the goal was to compare two groups writing haiku poetry about two different topics. In the second study, the comparison of haiku and narrative was initiated by including two control groups: a narrative control and a haiku control. In addition, the second study added a haiku group writing about a negative life event, which enabled the effect of writing topic to be examined further. Finally, the present study aimed to compare three forms of writing directly (Narrative-Nature, Haiku-Nature, and Haibun-Nature) and compare haiku groups writing in response to different images that would allow for a more experimentally rigorous comparison of the effects of writing topic.

This present section is concerned with considering whether there are any similarities across studies that would support more general statements regarding the effects of writing haiku poetry. The findings will be grouped according to specific measures, since a number of them have been used multiple studies; and the arrangement

of considering positive and negative attributes, and of longer- and short-term questionnaires, will be retained.

Negative Attribute Variables

Regarding anxiety (PAIA), both haiku groups reported decreases in the first study, while in the second study the narrative group writing about a neutral topic reported lower values than the haiku groups. The results suggest anxiety may decrease in writing haiku poetry, and the decrease for the narrative group is in keeping with the writing paradigm literature. For depression (PAID), the narrative control group reported decreases in depression compared to the haiku groups in the second study, while in the present study the Haiku-Nature group reported fewer depressive symptoms than the Haiku-negative-Nature group. These findings are in keeping with the theory developed from the second haiku study (Stephenson & Rosen, 2013) that composing haiku may sensitize one to the writing topic. In this instance, writing about nature does not lead to an experience of depressive symptoms as does writing about a negatively-valenced image. Once again, however, writing in narrative format appears to lessen such symptoms to a greater extent than writing in haiku form.

With respect to physiological symptomatology (PILL), overall both haiku groups experienced less symptomatology over time in the first study. There was also a significant difference between the haiku groups writing about nature versus a neutral topic in that the nature group did not continue to decrease during the follow-up period, as did the other group. In the second study, the haiku group writing about nature reported decreased physiological symptomatology compared to the haiku group writing about a negative life event. The narrative control group reported less symptomatology than the haiku nature or haiku negative life event group, to a marginally significant degree. And in the present study, those writing about Haiku-Nature reported more symptomatology than those writing about a negative nature image. These findings are mixed: sometimes writing haiku about nature leads to greater symptomatology and in some cases less. It is unclear what these findings across the studies may signify. In the present study, however, it may be that there is a reverse effect at work, where participants writing in

response to a negative image report less physiological symptomatology over time while those who write about a positive one experience more.

Positive Attribute Variables

Those writing haiku about nature in the first study experienced more spiritual meaning (SMS) than the haiku control group during the follow-up period. This finding was not replicated in either the second study or the present one, however. The haiku groups tended to experience more creativity (CPS) as a result of the writing interventions in the second study, but this result was not replicated in the present study, either. Finally, those groups whose writing included narrative in the present study tended to experience greater mindfulness (FFMQ) over time than those whose writing consisted exclusively of haiku. These findings may suggest that participants experience more spiritual meaning in writing haiku about the traditional topic of nature, and that writing haiku may involve greater creativity; but the lack of replication raises questions about these conclusions. At the same time, increases in mindfulness were experienced over time by those whose writing included narrative in the present study, running counter to the hypotheses. It may simply be that participants were more comfortable with writing in narrative form, which might incline them toward the kind of positive variables that were hypothesized to be associated with haiku.

Short-Term Measures

These measures were only used in the present study; the findings will nevertheless be reviewed to provide additional perspective, since they were discussed with respect to the hypotheses above. Flow (FSS) was found to decrease significantly over the course of the three writing days across groups; still, the contrast between Narrative-Nature and Haibun-Nature versus Haiku-Nature and Haiku-non-Nature demonstrated that the narrative groups experienced more flow. It may be that the novelty of the haiku task complicated this effect in that participants had to focus more attention on how they were writing than when they were simply writing in narrative format. Flow also demonstrated significant main effects in predicting post-writing affective valence, suggesting that a sense of flow may be an important element in writing interventions.

These findings are in keeping with Pennebaker's conceptualization of the writing task, where participants are encouraged to write continuously without concerning themselves with the likes of spelling and grammar (Pennebaker & Seagal, 1999). Changes in affective valence differed significantly by group, which also interacted significantly with time. Haiku-Nature experienced greater changes in positive affect than Haiku-negative-Nature and Haiku-non-Nature, but Narrative-Nature experienced greater changes in positive affect than Haiku-nature.

Thus, while haiku demonstrates some significant results, in the studies to date it has often been the case that participants writing in narrative equal or surpass those results in undergraduate samples. These studies have all sampled from an undergraduate student population, however, so it will be important to replicate these results with diverse samples before drawing any final conclusions.

Summary

Overall, the findings from this study suggest that writing in narrative leads not only to those effects that have typically been associated with the writing paradigm benefits, but also those that were hypothesized to be better associated with haiku and haibun, such as mindfulness and flow. These findings appear to be in keeping with a variety of studies that have been conducted previously which involved art in some form but nevertheless found that narrative was an essential component (Pennebaker, 1997, p. 99; Pizarro, 2004). In addition, this study supports the conception that writing in narrative form is itself a creative endeavor (Runco, 2006, p. 127): though not statistically significant, the Narrative-Nature group had the highest scores at Follow-up on both measures of creativity, even when controlling for differences at Time 1.

While the present study demonstrated some significant results, the overall lack of improvement experienced by the groups as a whole, in contrast with previous studies, suggests that having participants write in response to photographic images may not be conducive to their experiencing effects associated with either the writing paradigm (Frattaroli, 2006) or the haiku moment (Rosen & Weishaus, 2004; Ross, 2007). It could also be that more time would be required for participants to become familiar with the

novel task of writing haiku or haibun. Without an opportunity to acclimatize to the task, participants may not be able to garner a satisfactory experience of composing haiku. Like developing mindfulness or a meditative practice, it may be that the process by which haiku would foster long-term positive attributes is missed in the relatively short writing paradigm-style intervention.

Limitations

This study was limited in several ways. First, the exclusive use of self-report questionnaires may have increased measurement error. Second, participants were run in a group format in university classrooms. In writing paradigm studies, participants are often run individually in order to provide a more intimate context to promote self-disclosure, a rationale typically applied because of the personal, potentially traumatic nature of the material (Frattaroli, 2006). While the content in the present study was likely not experienced as arousing or unsettling to a similar degree, participants might have gained a clearer experience of writing in response to the given images were they run individually. Third, while the number of participants in the present study allowed for the evaluation of primarily medium effect sizes, it may be that a larger sample size would be required in order to evaluate what appear to be subtler dynamics than the present study was designed to consider.

Future Studies

In order to track the development of the haiku experience as traditionally formulated (Suzuki, 1959), future studies might do well to follow participants over a longer period of time as they develop familiarity with the haiku form. It might also be beneficial to shift to a qualitatively-based research methodology, given the challenge of collecting sufficient data to evaluate small effect sizes experimentally. The use of qualitative methods also seems in keeping with the concern of understanding the dynamics by which haiku operates, rather than whether composing it leads to similarly therapeutic effects as writing in narrative format.

Poetry is often conceptualized as promoting the possibility of seeing things anew, of infusing life with a sense of freshness. As Jean Cocteau states,

“Take a commonplace, clean it and polish it, light it so that it produces the same effect of youth and freshness and originality and spontaneity as it did originally, and you have done a poet's job. The rest is literature” (Cocteau, 1950). It is clear that this was not generally the experience of participants in this study. Rather, writing in response to given images led to a habituation that lacked a sense of ritual, of deepening, or of seeing anew. Future studies would do well to study haiku in a manner that would allow participants to foster this experience of poetry, which is often associated with haiku (Rosen & Weishaus, 2004; Suzuki, 1959). Participants writing haiku mostly for the first time, as in the studies to date, would be unlikely to provide an accurate representation of this element, which may account for the pattern of significant but inconsistent results across studies.

This ability to perceive afresh might be better studied in several ways. First, as suggested above, a longer-term study examining the process by which participants develop their experience of haiku poetry would help differentiate which elements lead to an experience of the haiku moment rather than habituation. Second, a study could be conducted with veteran haiku poets, in order to better understand the methods by which they operate and the effects they experience.

Third, Japanese participants could be studied in order to examine what effect greater familiarity with the poetic form might have on participants’ experience of it. With regard to this option, it is important to note that participants in the studies to date were not told they were writing haiku poetry specifically until after completion of the study. The purpose was to avoid priming participants with particular cognitive sets about what haiku poetry is (S. M. Smith, 2007); avoiding this possibility allowed for a more direct comparison of haiku poetry with the writing paradigm. With a Japanese sample, however, it would impossible to avoid this cognitive set. As a result, the research would then

be considering haiku poetry more as its own entity, rather than a short form of poetry within the context of the writing paradigm.[1]

While not experimentally manipulated in this study, it was thought that the research demonstrating the health benefits of living in close proximity to natural areas or spending time in nature served as a promising background for the use of positive nature images in the present research (R. Kaplan & Kaplan, 1989; S. Kaplan & Kaplan, 2003). However, as noted, participants experienced a habituation effect in writing about the images. In order to further explore both the nature of haiku and these findings concerning ecology and nature, a study might be conducted in actual nature areas where participants would not be limited in their experience of the writing topic, as they were in writing about an image in an artificial setting (university classrooms) that did not match the image. Such a study would need to differentiate what effects might be due to exposure to nature alone, but would also provide the opportunity to examine how composing haiku in response to nature might lead to a distinct constellation of effects.

Diener has noted that in order for people to improve their life satisfaction, they need to be taught how to like what they have, rather than liking what they want (Diener, 2009). And indeed, a number of interventions have been developed that improve people's subjective well-being (Diener, Lucas, & Oishi, 2009). These interventions have the potential to foster long-term changes in life satisfaction and subjective wellbeing. The effects are both direct, as a result of the intervention, and indirect, in that happiness assessed at one point is associated with positive outcomes later.

Following haiku's long history and its association with Zen Buddhism (Suzuki, 1959), it is likely that the kinds of benefits that would accrue from composing haiku poetry are notable, but, as with the positive psychology interventions, accrue over time as a result of deliberate application. Such an approach is different than that of the writing paradigm, which generally seeks to palliate existing difficulties rather than incrementally

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[1] A Japanese Government (MEXT) Scholarship awarded to this author made cross-cultural research of haiku poetry possible in Japan from 2011-2013.

improve wellbeing. Increasing presence and wellbeing appears to be a subtler task, but an important one. In Joseph Campbell's words, "People say that what we are seeking is a meaning for life. I don't think this is what we're really seeking. I think what we're seeking is an experience of being alive, so that our life experiences on the purely physical plane will have resonances within our own innermost being and reality, so that we actually feel the rapture of being alive" (Campbell, 1991, p. 1). Here, East (Loori, 2004; Suzuki, 1959) and West (May, 1976; Nachmanovitch, 1991) converge.

But some of the participants in the study had this experience. One of the questions participants were asked at Follow-up was whether the images they had written in response to had any impact on their experience beyond the confines of the study. While a minority in the present study, some participants' experience captured this element. Their voices provide a beacon for future studies, and will serve to conclude the present one: "[The writing process] made me notice more of the details of the picture." "I paid a little more attention to nature during the day." "I experienced nature in a different way." "The nature affected me." "I got drawn more into the landforms and shapes." "I love sunsets- so after writing about them, I now notice even more of their detail." "It made me appreciate [nature] more; I saw 'more' of it, it was like the depths and its nuances were shown to me." "It made me realize how I actually felt about the item. It gave me true appreciation for it." "[The images] helped me appreciate nature so much more." "[The writing process] let me travel deep within and beyond the image and create something more of it." "Writing about the object allowed me to see beyond the picture." "It got me to look at things from a different perspective." "It made me look deeper."

REFERENCES

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., Walsh, E., et al. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment*, *15*(3), 329-342.

Basho, M. (1966). *The narrow road to the deep north and other travel sketches*. New York: Penguin Classics.

Bradley, M. M., & Lang, P. J. (1994). Measuring emotion: The self-assessment manikin and the semantic differential. *Journal of Behavior Therapy and Experimental Psychiatry*, *25*(1), 49-59.

Burton, C. M., & King, L. A. (2004). The health benefits of writing about intensely positive experiences. *Journal of Research in Personality*, *38*(2), 150-163.

Burton, C. M., & King, L. A. (2008). Effects of (very) brief writing on health: The two-minute miracle. *British Journal of Health Psychology*, *13*(1), 9-14.

Campbell, J. (1991). *The Power of Myth*. New York: Anchor.

Clapham, M., Muchlinski, L., & Sedlacek, H. (2005). External validation of the Runco Ideational Behavior Scale. Poster presented at the Drake University Conference on Undergraduate Research in the Sciences, Des Moines, Iowa.

Cocteau, J. (1950). Le secret professionnel. *Le rappel à l'ordre*, Collected Works (Vol. 9).

Cronbach, L. J., & Furby, L. (1970). How we should measure "change": Or should we? *Psychological Bulletin*, *74*, 68-80.

Csikszentmihalyi, M. (2008). *Flow: The psychology of optimal experience*. New York: Harper Perennial Modern Classics.

Diener, E. (2009). New findings on happiness. Paper presented at the International Positive Psychology Association, Philadelphia, Pennsylvania.

Diener, E., Lucas, R., & Oishi, S. (2009). Subjective well-being: The science of happiness and life satisfaction. In C. R. Snyder & S. J. Lopez (Eds.), *Oxford*

handbook of positive psychology (pp. 187-194). New York: Oxford University Press.

Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers*, *28*(1), 1-11.

Feldman, G., Hayes, A., Kumar, S., Greeson, J., & Laurenceau, J.-P. (2007). Mindfulness and emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). *Journal of Psychopathology and Behavioral Assessment*, *29*(3), 177-190.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117-140.

Floyd, R. K. (2003). *Composing ourselves: Writing narrative and writing poetry as psychological interventions using the Pennebaker paradigm* (Dissertation). University of Kansas, Psychology and Research in Education, Lawrence, KS.

Frattaroli, J. (2006). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin*, *132*(6), 823-865.

Fredrickson, B. (2003). The value of positive emotions: The emerging science of positive psychology is coming to understand why it's good to feel good. *American Scientist*, *91*(4), 330–335.

Frisina, P. G., Borod, J. C., & Lepore, S. J. (2004). A meta-analysis of the effects of written emotional disclosure on the health outcomes of clinical populations. *The Journal of Nervous and Mental Disease*, *192*(9), 629-634.

Gardner, A. (2009, October 15). Green spaces boost the body and the mind. *US News and World Report*. Retrieved October 26, 2009, from http://health.usnews.com/articles/health/healthday/2009/10/15/green-spaces-boost-the-body-and-the-mind.html

Gioia, D. (1992). *Can poetry matter?: Essays on poetry and American culture*. Saint Paul, MN: Graywolf Press.

Gough, H. G. (1979). A creative personality scale for the Adjective Check List. *Journal of Personality and Social Psychology*, *37*(8), 1398-1405.

Gough, H. G., & Heilbrun, A. B. (1983). *The Adjective Check List manual*. Palo Alto, CA: Consulting Psychologists Press.

Greenberg, M. A., Wortman, C. B., & Stone, A. A. (1996). Emotional expression and physical health: Revising traumatic memories or fostering self-regulation? *Journal of Personality and Social Psychology*, *71*, 588–602.

Henderson, P. G., Rosen, D. H., & Mascaro, N. (2007). Empirical study on the healing nature of mandalas. *Psychology of Aesthetics, Creativity, and the Arts*, *1*(3), 148-154.

Hyde, L. (2007). *The gift: Creativity and the artist in the modern world*. New York: Vintage.

Jackson, S. A., & Marsh, H. W. (1996). Development and validation of a scale to measure optimal experience: The Flow State Scale. *Journal of Sport and Exercise Psychology*, *18*(1), 17–35.

Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. New York: Cambridge University Press.

Kaplan, S., & Kaplan, R. (2003). Health, supportive environments, and the Reasonable Person Model. *American Journal of Public Health*, *93*(9), 1484-1489.

Kaufman, J. C., & Sexton, J. D. (2006). Why doesn't the writing cure help poets? *Review of General Psychology*, *10*(3), 268-282.

King, C. A. (2004). A promising psychosocial intervention: Next steps include systematic study and creative extension. *Clinical Psychology Science and Practice*, *11*(2), 143-146.

King, L. A. (2001). The health benefits of writing about life goals. *Personality and Social Psychology Bulletin*, *27*(7), 798-807.

King, L. A. (2002). Gain without pain? Expressive writing and self-regulation. In S. J. Lepore & J. M. Smyth (Eds.), *The writing cure: How expressive writing promotes health and emotional well-being*. Washington, D.C.: American Psychological Association.

King, L. A., & Miner, K. N. (2000). Writing about the perceived benefits of traumatic events: Implications for physical health. *Personality and Social Psychology Bulletin*, *26*(2), 220.

Lang, P. J., Bradley, M. M., & Cuthbert, B. N. (2008). *International affective picture system (IAPS): Affective ratings of pictures and instruction manual. Technical Report A-8.* University of Florida, Gainesville, FL.

Langer, E. J. (2006). *On becoming an artist: Reinventing yourself through mindful creativity*. New York: Ballantine Books.

Loori, J. D. (2004). *The Zen of creativity: Cultivating your artistic life*. New York: Ballantine Books.

Lyubomirsky, S., Sousa, L., & Dickerhoof, R. (2006). The costs and benefits of writing, talking, and thinking about life's triumphs and defeats. *Journal of Personality and Social Psychology*, *90*(4), 692-708.

Marrs, R. W. (1995). A meta-analysis of bibliotherapy studies. *American Journal of Community Psychology*, *23*(6), 843-870.

Martindale, C. (1975). *Romantic progression: The psychology of literary history*. Washington, D.C.: Hemisphere.

Martindale, C. (2009). The evolution and end of art as Hegelian tragedy. *Empirical Studies of the Arts*, *27*(2), 133–140.

Mascaro, N., Rosen, D. H., & Morey, L. C. (2004). The development, construct validity, and clinical utility of the Spiritual Meaning Scale. *Personality and Individual Differences*, *37*(4), 845-860.

May, R. (1976). *The courage to create*. New York: Bantam.

Morey, L. C. (1990). *Personality Assessment Inventory*. Odessa, FL: Psychological Assessment Resources, Inc.

Nachmanovitch, S. (1991). *Free play: Improvisation in life and art*. New York: Tarcher.

Nakamura, J., & Csikszentmihalyi, M. (2009). Flow theory and research. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 195-206). New York: Oxford University Press.

Pennebaker, J. W. (1982). *The Pennebaker Inventory of Limbic Languidness (the PILL): The psychology of physical symptoms*. New York: Springer-Verlag.

Pennebaker, J. W. (1997). *Opening up: The healing power of expressing emotions*. New York: The Guilford Press.

Pennebaker, J. W. (2004). Theories, therapies, and taxpayers: On the complexities of the expressive writing paradigm. *Clinical Psychology Science and Practice*, *11*(2), 138-142.

Pennebaker, J. W., & Beall, S. K. (1986). Confronting a traumatic event: Toward an understanding of inhibition and disease. *Journal of Abnormal Psychology*, *95*(3), 274–281.

Pennebaker, J. W., & Graybeal, A. (2001). Patterns of natural language use: Disclosure, personality, and social integration. *Current Directions in Psychological Science*, *10*(3), 90-93.

Pennebaker, J. W., & Seagal, J. D. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology*, *55*(10), 1243-1254.

Pennebaker, J. W., Booth, R. J., & Francis, M. E. (2007). *Linguistic Inquiry and Word Count (LIWC): A computer-based text analysis program*. Mahwah, NJ: Erlbaum.

Pizarro, J. (2004). The efficacy of art and writing therapy: Increasing positive mental health outcomes and participant retention after exposure to traumatic experience. *Art Therapy: Journal of the American Art Therapy Association*, *21*(1), 5-12.

Pritzker, S. R. (1999). Zen. In S. R. Pritzker & M. A. Runco (Eds.), *Encyclopedia of Creativity* (1st ed., Vols. 1-2, Vol. 2, pp. 745-750). San Diego, CA: Academic Press.

Richards, R. (2007a). Everyday creativity and the arts. *World Futures: Journal of General Evolution*, *63*(7), 500-525.

Richards, R. (Ed.). (2007b). *Everyday creativity and new views of human nature: Psychological, social, and spiritual perspectives* (1st ed.). Washington, D.C.: American Psychological Association.

Rosen, D. H., & Weishaus, J. (2004). *The healing spirit of haiku*. Berkeley, CA: North Atlantic Books.

Ross, B. (2007). The essence of haiku. *Modern Haiku*, *38*(3), 51-62.

Runco, M. A. (2006). *Creativity: Theories and themes: Research, development, and practice*. San Diego, CA: Elsevier Academic Press.

Runco, M. A., Plucker, J. A., & Lim, W. (2001). Development and psychometric integrity of a measure of ideational behavior. *Creativity Research Journal*, *13*(3/4), 393-400.

Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *The American Psychologist*, *55*(1), 5-14.

Sloan, D. M., & Marx, B. P. (2004). Taking pen to hand: Evaluating theories underlying the written disclosure paradigm. *Clinical Psychology: Science and Practice*, *11*(2), 121-137.

Smith, S. M. (2007). Context: A reference for focal experience. In H. L. Roediger, Y. Dudai, & S. Fitzpatrick (Eds.), *Science of memory: Concepts* (pp. 111-114). New York: Oxford University Press.

Smyth, J. M. (1998). Written emotional expression: Effect sizes, outcome types, and moderating variables. *Journal of Consulting and Clinical Psychology*, *66*(1), 174–184.

Smyth, J. M., & Catley, D. (2002). Translating research into practice: Potential of expressive writing in the field. In S. J. Lepore & J. M. Smyth (Eds.), *The writing cure: How expressive writing promotes health and emotional well-being* (pp. 199–214). Washington, D.C.: American Psychological Association.

Stephenson, K., & Rosen, D. H. (in press). Extending the expressive writing paradigm: Is writing haiku poetry healing? *Reports from the Faculty of Clinical Psychology, Kyoto Bunkyo University.*

Stephenson, K., & Rosen, D. H. (2013). *Haiku and healing: An empirical study of poetry writing as intervention*. Manuscript submitted for publication.

Suzuki, D. T. (1959). *Zen and Japanese culture*. New York: Bollingen.

Torrance, E. P. (1979). *The search for satori and creativity*. Buffalo, NY: Creative Education Foundation.

Zoja, L. (2007). *Ethics and analysis: Philosophical perspectives and their application in therapy*. College Station, TX: TAMU Press.

APPENDIX A

NOMENCLATURE

CPS	Creative Personality Scale
FFMQ	Five Facet Mindfulness Questionnaire
FSS	Flow State Scale
PAIA	Personality Assessment Inventory—Anxiety
PAID	Personality Assessment Inventory—Depression
PILL	Pennebaker Inventory of Limbic Languidness
RIBS	Runco Ideational Behavior Scale
SAM	Self-Assessment Manikin
SAM-A	Self-Assessment Manikin—Arousal
SAM-V	Self-Assessment Manikin—Affective Valence
SAM-pre-A	Self-Assessment Manikin—Pre-Writing Arousal
SAM-pre-V	Self-Assessment Manikin—Pre-Writing Affective Valence
SAM-post-A	Self-Assessment Manikin—Post-Writing Arousal
SAM-post-V	Self-Assessment Manikin—Post-Writing Affective Valence
SMS	Spiritual Meaning Scale

APPENDIX B

TABLES AND FIGURES

Table 3. *Longer-Term Questionnaire Means and Standard Deviations*

		Narrative-Nature		**Haiku-Nature**		**Haibun-Nature**		**Haiku-negative-Nature**		**Haiku-non-Nature**	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Day 1	*PAIA*	57.36	9.06	61.37	12.19	63.50	11.90	61.87	11.76	63.27	12.75
	PAID	57.74	8.81	58.33	9.36	58.78	10.07	58.04	8.86	59.57	9.97
	PILL	116.46	21.38	117.76	24.41	120.05	25.31	121.16	21.25	119.59	20.92
	SMS	65.53	8.09	68.17	7.38	68.57	5.39	64.80	8.57	64.54	10.49
	CPS	2.02	2.69	1.86	2.19	2.10	2.70	2.20	2.35	2.41	2.06
	RIBS	62.73	16.21	60.24	13.20	61.15	15.93	57.19	15.25	58.84	16.01
	FFMQ	121.23	7.01	120.95	5.83	121.28	6.91	120.75	6.27	121.21	7.72
Follow-up	*PAIA*	56.96	9.21	61.79	12.19	62.80	10.79	60.93	11.48	62.31	13.90
	PAID	57.41	9.72	57.47	10.07	58.39	9.33	59.76	11.08	57.78	9.40
	PILL	115.88	23.28	118.33	26.26	118.06	26.76	114.31	23.47	117.88	25.14
	SMS	66.13	10.06	67.00	9.57	69.22	5.67	64.47	10.04	65.29	10.01
	CPS	2.04	2.26	1.53	2.53	1.82	3.00	1.84	2.47	2.12	2.28
	RIBS	66.38	15.51	60.48	15.14	59.47	14.91	55.78	14.93	59.57	19.21
	FFMQ	122.68	7.53	120.35	6.19	121.54	6.62	120.16	5.42	119.68	7.58

Table 4. *Longer-Term Questionnaire Estimated Marginal Means and Standard Errors*

Measures	Covariate Mean	Group	Means at Follow-up	St. Error
PAIA	61.54	Narrative-Nature	60.46	0.92
		Haiku-Nature	61.93	0.95
		Haibun-Nature	61.39	0.90
		Haiku-negative-Nature	60.66	0.93
		Haiku-non-Nature	60.85	0.90
PAID	58.54	Narrative-Nature	58.09	0.89
		Haiku-Nature	57.64	0.91
		Haibun-Nature	58.18	0.84
		Haiku-negative-Nature	60.17	0.89
		Haiku-non-Nature	56.91	0.85
PILL	118.86	Narrative-Nature	118.76	2.48
		Haiku-Nature	120.12	2.51
		Haibun-Nature	117.30	2.34
		Haiku-negative-Nature	112.34	2.40
		Haiku-non-Nature	117.25	2.29
SMS	66.32	Narrative-Nature	66.88	0.71
		Haiku-Nature	65.28	0.76
		Haibun-Nature	67.06	0.69
		Haiku-negative-Nature	65.92	0.73
		Haiku-non-Nature	66.99	0.70
FFMQ	121.04	Narrative-Nature	122.60	0.83
		Haiku-Nature	120.40	0.85
		Haibun-Nature	121.40	0.78
		Haiku-negative-Nature	120.39	0.84
		Haiku-non-Nature	119.72	0.82

Table 4. *Continued*

Measures	Covariate Mean	Group	Means at Follow-up	St. Error
CPS	2.12	Narrative-Nature	2.11	0.30
		Haiku-Nature	1.70	0.31
		Haibun-Nature	1.84	0.29
		Haiku-negative-Nature	1.80	0.31
		Haiku-non-Nature	1.95	0.29
RIBS	59.97	Narrative-Nature	62.43	1.70
		Haiku-Nature	60.41	1.69
		Haibun-Nature	58.74	1.59
		Haiku-negative-Nature	57.67	1.58
		Haiku-non-Nature	60.32	1.69

Table 5. *Short-Term Questionnaire Means and Standard Deviations*

		Narrative-Nature		**Haiku-Nature**		**Haibun-Nature**		**Haiku-negative-Nature**		**Haiku-non-Nature**	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Day 1	*SAM-pre-V*	5.93	1.30	5.76	1.34	5.69	1.31	5.71	1.36	5.63	1.40
	SAM-pre-A	3.34	1.60	3.38	1.86	3.61	1.66	3.29	1.78	3.49	1.78
	SAM-post-V	6.89	1.35	6.24	1.30	6.30	1.34	5.41	1.56	5.70	1.33
	SAM-post-A	3.68	1.97	3.79	2.13	3.36	2.18	3.38	1.93	3.69	2.18
	FSS	67.98	12.38	65.53	11.99	67.39	11.77	63.20	9.44	62.29	11.42
Day 2	*SAM-pre-V*	5.64	1.42	5.59	1.24	5.64	1.41	6.42	1.48	5.91	1.36
	SAM-pre-A	3.36	1.68	3.53	1.91	3.45	1.85	3.62	2.07	3.15	2.06
	SAM-post-V	6.04	1.50	5.62	1.31	5.60	1.78	5.38	1.72	5.81	1.86
	SAM-post-A	3.33	1.88	3.06	1.77	3.43	1.99	3.48	2.03	3.14	1.95
	FSS	64.76	11.82	61.74	10.52	63.25	11.72	60.04	9.59	61.55	11.46
Day 3	*SAM-pre-V*	5.81	1.73	5.88	1.40	5.67	1.41	6.24	1.88	5.65	1.54
	SAM-pre-A	3.31	1.87	3.67	2.38	3.88	1.84	3.41	1.97	3.09	1.94
	SAM-post-V	5.89	1.83	5.93	1.37	5.75	1.60	5.92	1.41	5.49	1.96
	SAM-post-A	3.09	1.76	3.80	2.13	3.97	2.10	3.30	2.13	2.78	1.73
	FSS	63.06	14.35	61.88	9.94	62.09	13.07	62.91	8.56	58.82	11.71

Table 6. *Correlations Between Longer-Term Measures*

		Day 1							Follow-up						
		PAIA	*PAID*	*PILL*	*SMS*	*CPS*	*RIBS*	*FFMQ*	*PAIA*	*PAID*	*PILL*	*SMS*	*CPS*	*RIBS*	*FFMQ*
Day 1	*PAIA*	1	.480**	.474**	.039	.160*	.144*	-.368**	.847**	.424**	.413**	.052	.067	.061	-.307**
	PAID		1	.294**	-.274**	.246**	.119	-.417**	.458**	.794**	.262**	-.221**	.065	.114	-.398**
	PILL			1	.073	.099	.283**	-.153*	.471**	.238**	.768**	.120	.080	.198**	-.197**
	SMS				1	-.031	.177*	.129*	.017	-.236**	.151*	.850**	.008	.116	.096
	CPS					1	.199**	-.030	.161*	.162*	.074	-.078	.587**	.172**	-.032
	RIBS						1	.020	.120	.066	.266**	.188**	.077	.764**	-.010
	FFMQ							1	-.346**	-.399**	-.078	.141*	.032	.042	.557**
Follow-up	*PAIA*								1	.518**	.493**	.007	.094	.103	-.355**
	PAID									1	.251**	-.246**	.070	.090	-.433**
	PILL										1	.186**	.096	.270**	-.139*
	SMS											1	-.056	.145*	.154*
	CPS												1	.194**	.054
	RIBS													1	.015
	FFMQ														1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 7. *Correlations Between Short-Term Measures*

		Day 1					**Day 2**					**Day 3**				
		SAM-pre-V	*SAM-pre-A*	*SAM-post-V*	*SAM-post-A*	*FSS*	*SAM-pre-V*	*SAM-pre-A*	*SAM-post-V*	*SAM-post-A*	*FSS*	*SAM-pre-V*	*SAM-pre-A*	*SAM-post-V*	*SAM-post-A*	*FSS*
Day 1	*SAM-pre-V*	1	.071	.340**	-.087	.096	.171*	.081	.228**	.065	.072	.118	.080	.134*	-.006	.110
	SAM-pre-A		1	-.016	.505**	.033	-.034	.490**	-.034	.444**	.011	-.053	.343**	.002	.342**	.057
	SAM-post-V			1	.070	.381**	-.109	-.101	.317**	-.141*	.261**	.125	.083	.170*	.075	.217**
	SAM-post-A				1	.186**	-.035	.344**	-.057	.381**	.113	.044	.312**	-.003	.424**	.096
	FSS					1	-.146*	-.029	.009	.063	.606**	.071	.132	.047	.077	.588**
Day 2	*SAM-pre-V*						1	.140	.388**	.026	-.044	.282**	.053	.103	-.001	-.045
	SAM-pre-A							1	.004	.525**	.000	.065	.468**	-.064	.322**	-.118
	SAM-post-V								1	-.030	.278**	.171**	.019	.204**	-.013	.047
	SAM-post-A									1	.147*	-.027	.401**	.034	.433**	.118
	FSS										1	.054	.167*	.039	.118	.574**
Day 3	*SAM-pre-V*											1	.313**	.479**	.165*	.076
	SAM-pre-A												1	.195**	.701**	.128
	SAM-post-V													1	.157*	.328**
	SAM-post-A														1	.190**
	FSS															1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 8. *Contrast Group Characteristics for Affective Valence*

Groups	**Day 1**		**Day 2**		**Day 3**	
	M	*SD*	*M*	*SD*	*M*	*SD*
Positive Narrative Groups	.33	.90	.16	.93	.09	.96
Positive Haiku Groups	-.08	.87	.08	.95	-.03	1.06

Note. Positive Narrative Groups = Narrative-Nature and Haibun-Nature. Positive Haiku Groups = Haiku-Nature and Haiku-non-Nature.

Table 9. *Regressions Predicting Post-Writing Affective Valence From Pre-Writing Affective Valence, Flow, and Their Interaction*

Group	Writing Day	Variable	*B*	S.E.	*t*-test	*p*
Narrative-Nature	**Day 1**	*SAM-pre-V*	.508	.122	4.167	.000
		FSS	.062	.012	4.972	.000
		interaction	-.020	.010	-2.041	.048
	Day 2	*SAM-pre-V*	.725	.108	6.696	.000
		FSS	.043	.013	3.332	.002
		interaction	.004	.011	.347	.730
	Day 3	*SAM-pre-V*	.708	.113	6.277	.000
		FSS	.032	.014	2.372	.022
		interaction	-.005	.008	-.613	.543
Haiku-Nature	**Day 1**	*SAM-pre-V*	.216	.150	1.442	.158
		FSS	.030	.017	1.804	.079
		interaction	.005	.014	.336	.739
	Day 2	*SAM-pre-V*	.101	.161	.627	.535
		FSS	.029	.019	1.545	.131
		interaction	-.030	.016	-1.850	.073
	Day 3	*SAM-pre-V*	.380	.121	3.151	.003
		FSS	.074	.017	4.298	.000
		interaction	.013	.013	.987	.330
Haibun-Nature	**Day 1**	*SAM-pre-V*	.318	.136	2.348	.023
		FSS	.060	.014	4.284	.000
		interaction	-.011	.011	-.942	.351
	Day 2	*SAM-pre-V*	.427	.205	2.085	.043
		FSS	.043	.022	1.964	.056
		interaction	.014	.021	.680	.500
	Day 3	*SAM-pre-V*	.362	.180	2.011	.050
		FSS	.034	.019	1.759	.086
		interaction	.003	.013	.193	.848

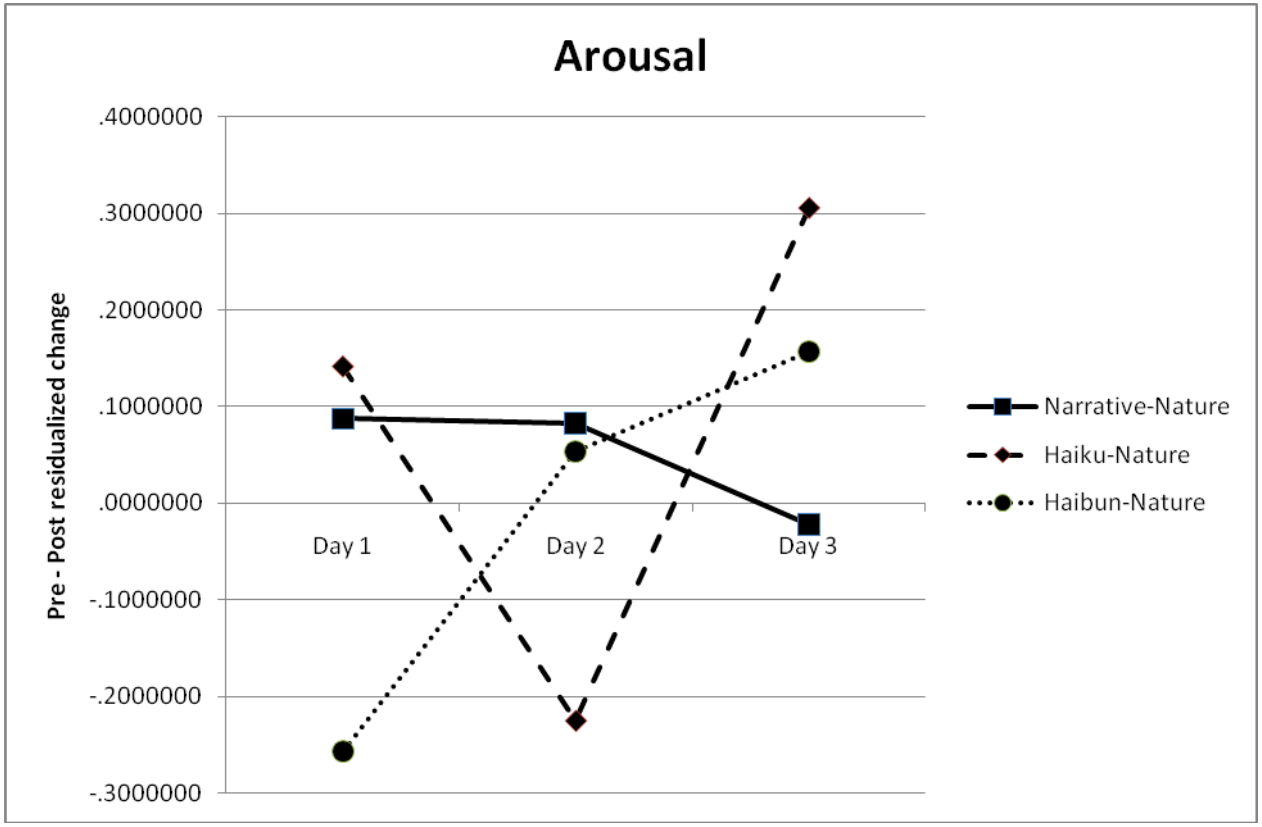

Figure 1. Residualized Change in Arousal (SAM-A) for Three Groups.

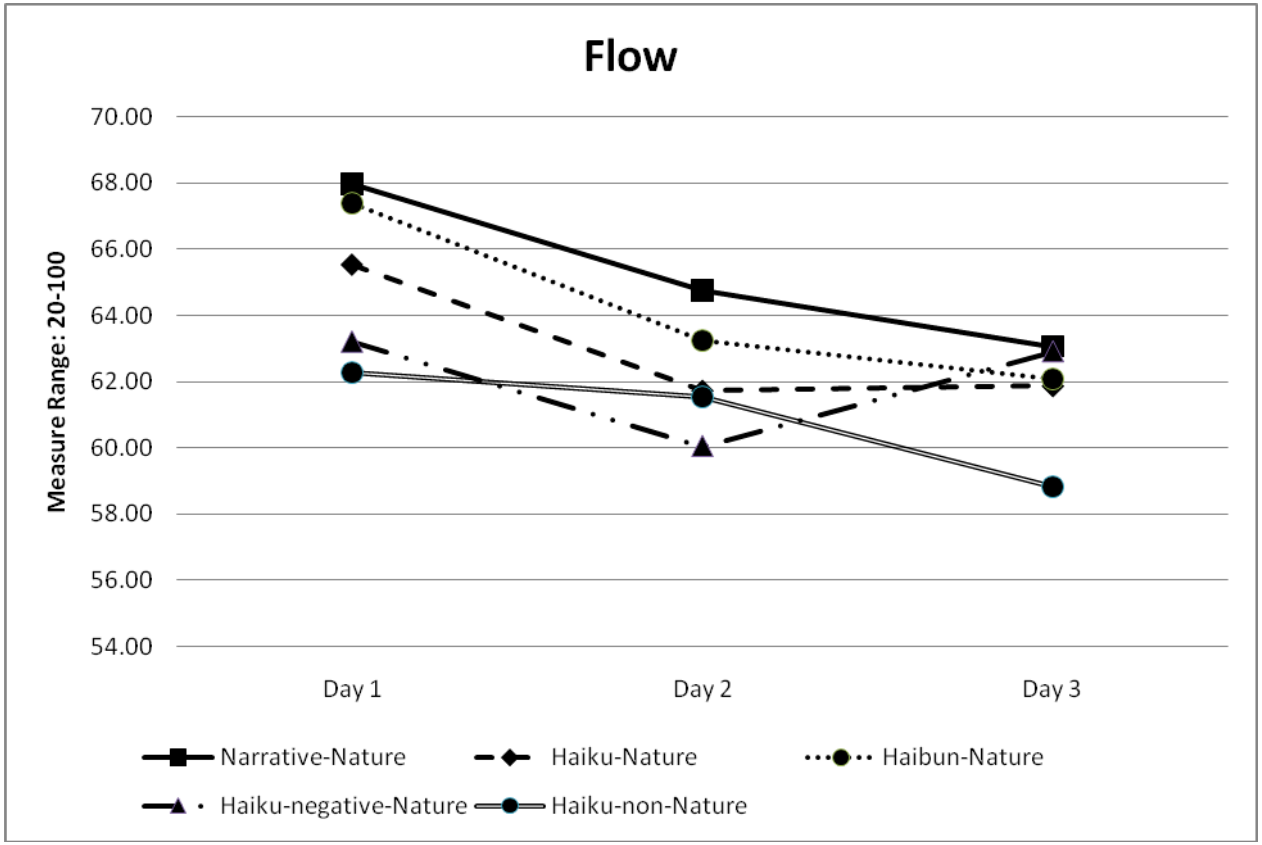

Figure 2. Change in Flow (FSS).

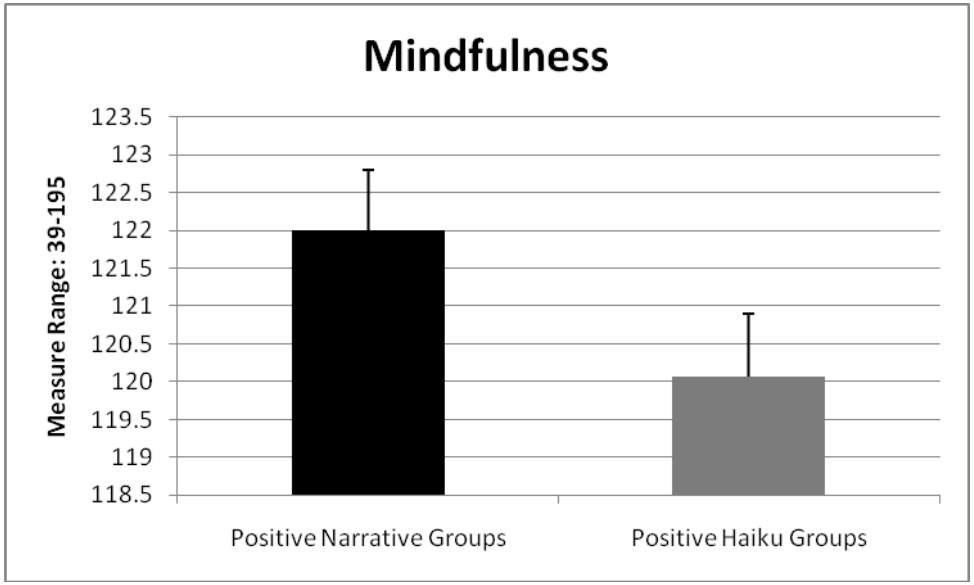

Figure 3. Mindfulness (FFMQ) ANCOVA Linear Contrast at Follow-up for Positive Narrative Groups (Narrative-Nature & Haibun-Nature) versus Positive Haiku Groups (Haiku-Nature & Haiku-non-Nature).

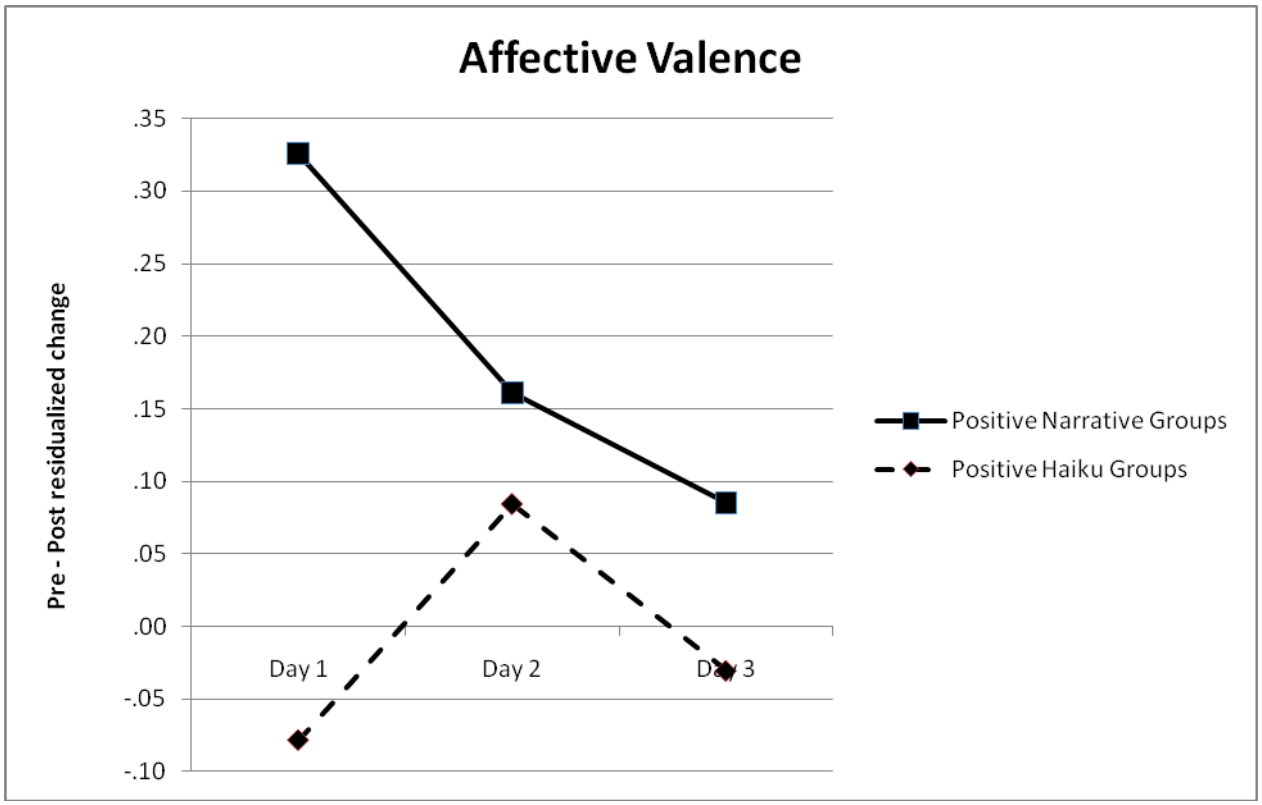

Figure 4. Residualized Change in Affective Valence (SAM-V) for Positive Narrative Groups (Narrative-Nature & Haibun-Nature) versus Positive Haiku Groups (Haiku-Nature & Haiku-non-Nature).

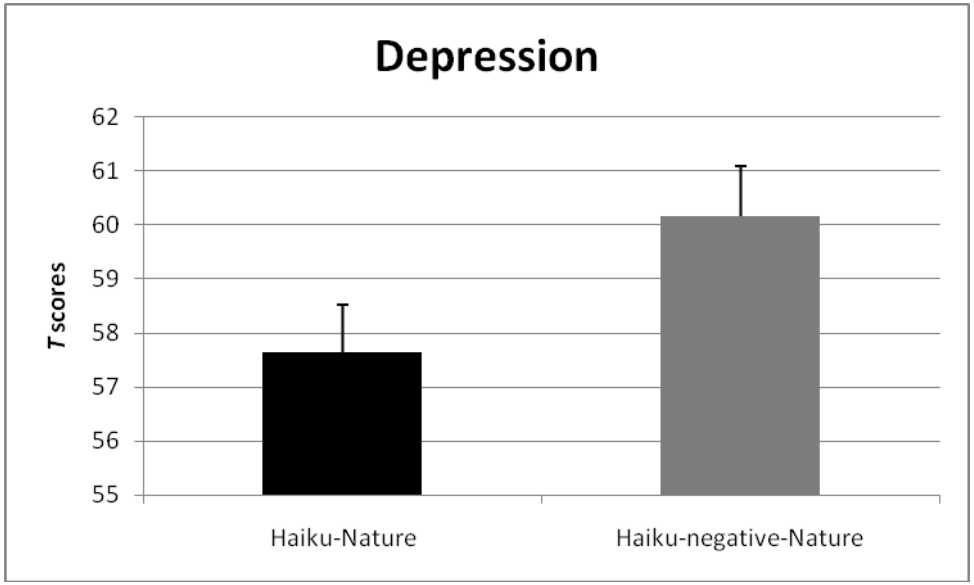

Figure 5. Depression (PAID) ANCOVA Linear Contrast at Follow-up for Haiku-Nature versus Haiku-negative-Nature.

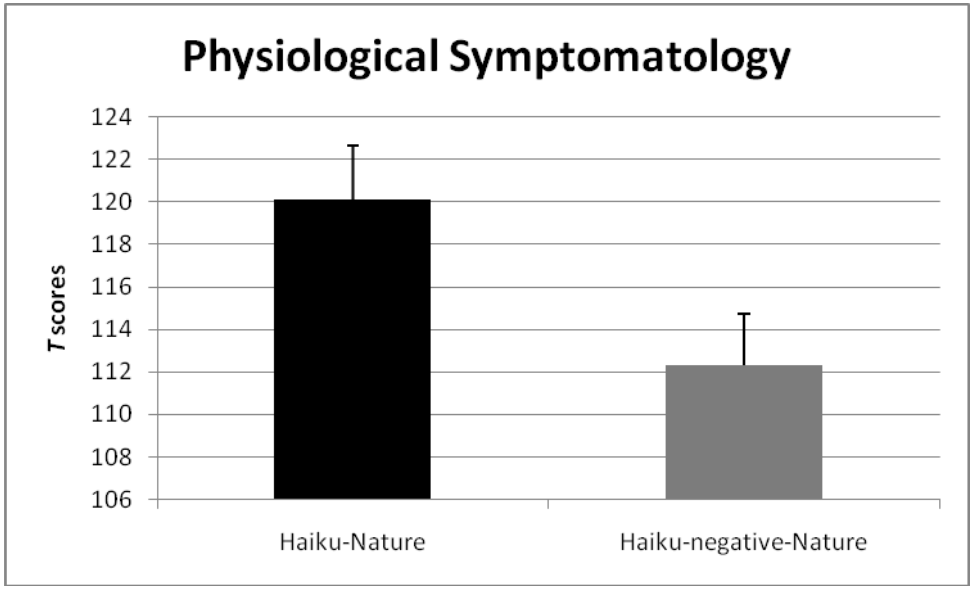

Figure 6. Physiological Symptomatology (PILL) ANCOVA Linear Contrast at Follow-up for Haiku-Nature versus Haiku-negative-Nature.

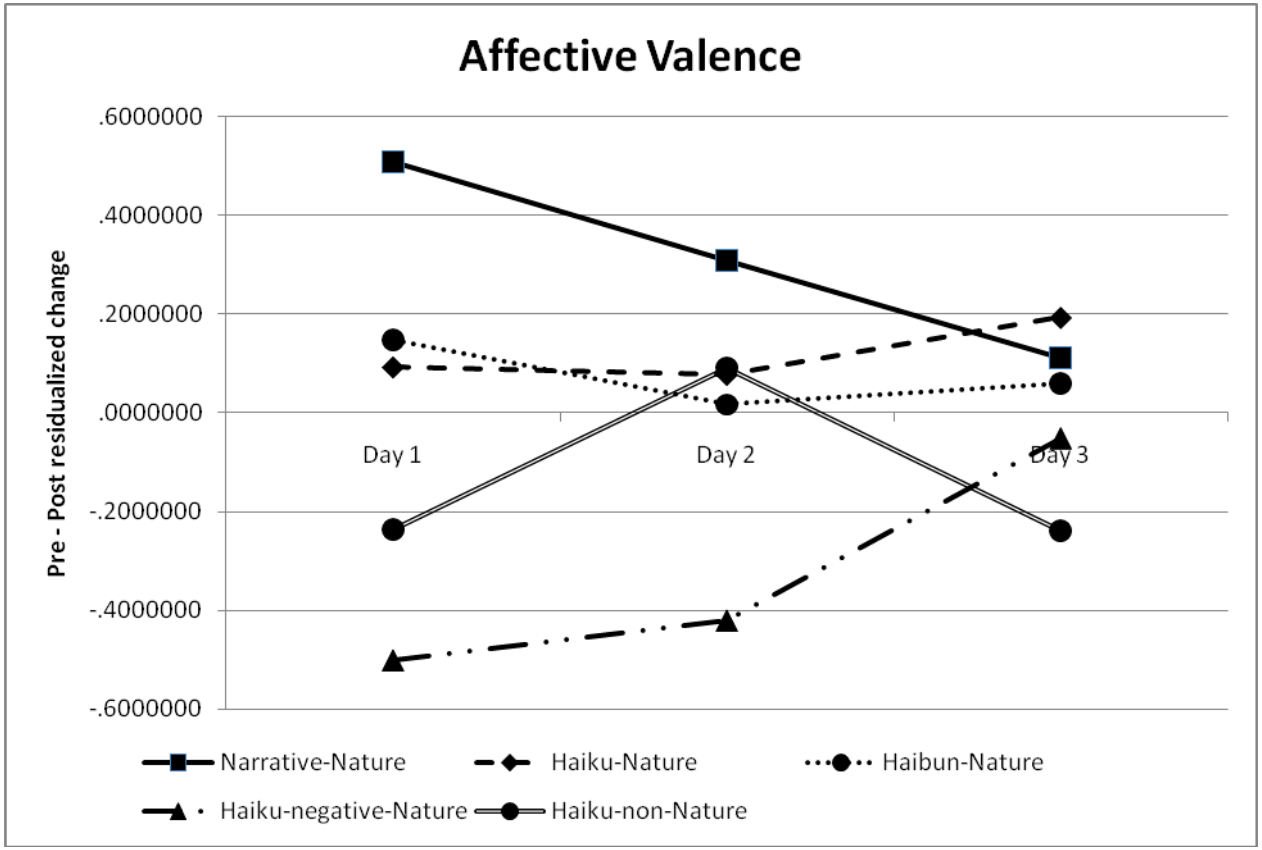

Figure 7. Residualized Change in Affective Valence (SAM-V) for All Groups.

APPENDIX C

PARTICIPANT WRITING INSTRUCTIONS

Narrative Group (Narrative-Nature)

The purpose of this study is to get you writing. People can find the idea of writing daunting, so we are going to keep things simple. First, there are some rules we would like you to follow. The rules are very simple, but very important.

Rules

Rule 1: You will be writing in response to a particular image that will be displayed at the front of the room. It is essential that you stick to this assigned writing topic.

Rule 2: Be engaged in the writing process for the full 15 minutes. Write in a way that is comfortable and natural for you, that allows you to write continuously. You do not need to worry about spelling or grammar.

Rule 3: Include concrete details from the image but feel free to make connections between your own life and the topic. In other words, while the writing should include details from your topic, you are invited to write in a way that makes the topic meaningful for you.

There will be a visualization exercise to help you formulate your writing topic. After the visualization exercise, you will have 15 minutes to write.

The Researcher will let you know when there are 5 minutes left. Once again, it is very important that you be engaged in the writing process for the full 15 minutes.

Haiku Groups (Haiku-Nature, Haiku-non-Nature, Haiku-negative-Nature)

The purpose of this study is to get you writing poetry. People can find the idea of writing poetry daunting, so we are going to keep the poems short and simple. First, there are some rules we would like you to follow. The rules are very simple, but very important.

Rules

Rule 1: You will be writing in response to a particular image that will be displayed at the front of the room. It is essential that you stick to this assigned writing topic.

Rule 2: Write poems that are 3 lines long—no more, no less.

Rule 3: Keep the poems to 11 words or less for each poem. If you prefer thinking in syllables, use 12-17 syllables per poem.

Include concrete details from the image but feel free to make connections between your own life and the topic. In other words, while the writing should include details from your topic, you are invited to write in a way that makes the topic meaningful for you.

There will be a visualization exercise to help you formulate your writing topic. After the visualization exercise, you will have 15 minutes to write. Whether imagining and visualizing a scene, composing a poem, reflecting, or editing the poem, it is very important that you be engaged in the writing process for the full 15 minutes. The Researcher will let you know when there are 5 minutes left. If you have not yet written a poem, be sure to start at that time. Please write at least 1 poem and circle your final poem or poems.

If you feel comfortable and are ready to write poetry just by following the rules, feel free to do so. If you could use some more ideas on how to write poetry that will follow the 3 rules, some additional suggestions below will help. The suggestions are completely optional.

Suggestions (optional)

- Short poems naturally lend themselves to a visual approach. Instead of focusing on words, like creating rhymes, try to convey a visual image that is meaningful to you.
- Describe a scene or experience as simply and directly as possible; avoid figurative language (e.g., ‘love is like a rose’).
- Because the poems are so short, you can eliminate articles (a, an, the) and other ‘filler’ words; you can even drop verbs or verb endings, just as long as the poem conveys something meaningful to you.

- Construct the 3 lines in the following manner: 3 words first line – 5 words second line – 3 words last line. Again, you can use fewer words if you want.
- Create a visual setting in the poem. Describe 'who,' 'what,' and 'where'—one for each line.
- Don't worry about rhyme or rhythm.
- Describe the topic in 2 lines, then do something dynamic in the 3rd line. You could: present a contrasting image, element, or viewpoint; create a paradox or emphasize opposites; describe or comment on the topic of the first 2 lines; etc.

Haibun Group (Haibun-Nature)

The purpose of this study is to get you writing. People can find the idea of writing daunting, so we are going to combine narrative and poetry to make things easier. First, there are some rules we would like you to follow. The rules are very simple, but very important.

Rules

Rule 1: You will be writing in response to a particular image that will be displayed at the front of the room. It is essential that you stick to this assigned writing topic.

Rule 2: Write in both narrative and poetic forms; you can begin with either one. Include concrete details from the image but feel free to make connections between your own life and the topic. In other words, while the writing should include details from your topic, you are invited to write in a way that makes the topic meaningful for you. Try to have the narrative and poetry connect to form a larger whole.

Rule 3: The poems should be 3 lines long—no more, no less. Keep the poems to 11 words or less for each poem. If you prefer thinking in syllables, use 12-17 syllables per poem. Write the narrative portion(s) in a way that is comfortable and natural for you, that allows you to write continuously; you do not need to worry about spelling or grammar.

There will be a visualization exercise to help you formulate your writing topic. After the visualization exercise, you will have 15 minutes to write. You can begin with either narrative or poetry, but make sure to include a narrative section and at least 1 poem. After you have written in both narrative and poetic forms, you can continue writing in the same manner, alternating between narrative and poetry as you go. Please be sure to alternate between the two.

The Researcher will let you know when there are 5 minutes left. If you have written in one form (narrative or poetry) but not the other, be sure to start at that time. Once again, it is very important that you be engaged in the writing process for the full 15 minutes.

If you feel comfortable and are ready to write poetry just by following the rules, feel free to do so. If you could use some more ideas on how to write poetry that will follow the 3 rules, some additional suggestions below will help. The suggestions are completely optional.

Suggestions (optional)

- Short poems naturally lend themselves to a visual approach. Instead of focusing on words, like creating rhymes, try to convey a visual image that is meaningful to you.
- Describe a scene or experience as simply and directly as possible; avoid figurative language (e.g., 'love is like a rose').
- Because the poems are so short, you can eliminate articles (a, an, the) and other 'filler' words; you can even drop verbs or verb endings, just as long as the poem conveys something meaningful to you.
- Construct the 3 lines in the following manner: 3 words first line – 5 words second line – 3 words last line. Again, you can use fewer words if you want.
- Create a visual setting in the poem. Describe 'who,' 'what,' and 'where'—one for each line.
- Don't worry about rhyme or rhythm.
- Describe the topic in 2 lines, then do something dynamic in the 3rd line. You could: present a contrasting image, element, or viewpoint; create a paradox or emphasize opposites; describe or comment on the topic of the first 2 lines; etc.